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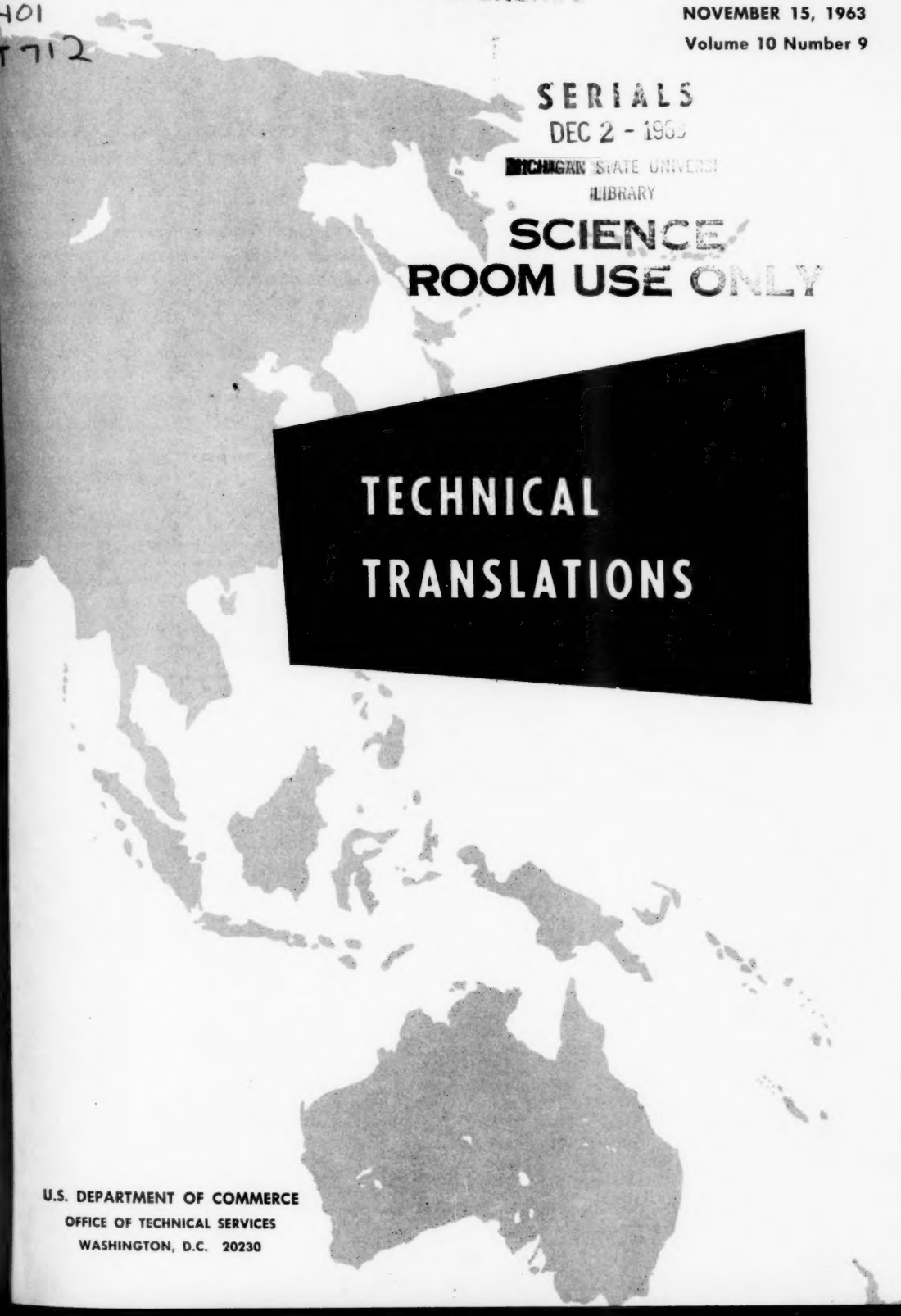

U.S. DEPARTMENT OF COMMERCE
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WASHINGTON, D.C. 20230

TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

OFFICE OF TECHNICAL SERVICES
Donald A. Schon, *Director*

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WASHINGTON, D.C. 20230

TECHNICAL TRANSLATIONS

Volume 10, Number 9 Pages 993 - 1165 November 15, 1963

*Descriptors marked with an asterisk are listed in the subject index.

AGRICULTURE

AGRICULTURE, 1955, VOL. 3, NO. 4-1958, VOL. 6, NO. 10: SELECTED ARTICLES, tr. by Ugo Zunjevic and others. 1963, 71p PL-480 Agr
Order from OTS $0.75 61-11211/1-9

Trans. of Poljoprivreda (Yugoslavia) 1955, v. 3, no. 4, p. 5-9; no. 7/8, p. 17-23; 1957, v. 5, no. 3, p. 14-25; no. 10, p. 43-50; 1958, v. 6, no. 2, p. 54-74; no. 10, p. 13-26.

DESCRIPTORS: *Agriculture, Yugoslavia, *Plants (Botany), Pollen, *Growth substances, *Vitaceae, *Cattle, Food, *Soils, Salinity, *Erosion, Lime, Temperature, *Transplantation, Swine

Contents:
The effect of synthetic phytohormone of potassium salt of alpha-naphtalene acetic acid upon the rooting of lemon cuttings, by Branislav M. Pavicevic and Petar D. Misic
Structure of flower and pollen germination of some grape varieties, by Lazar Avramov
Crop rotation as the basis of intensive dairy farming, by Dobra Todorovic
The problem of saline soils and salinization in Vojvodina, by Nikola Miljkovic
Soil erosion in the basin of Prizren, by Dorde Filipovic
Consequences of washing away of lime and deterioration of the structure of black bog soils and smonitsas of Vojvodina, by Tihomir Vajdic
The black soils of Vojvodina and their agricultural value, by Tihomir Vajdic
The influence of lowered temperature in the basal part of the vine rootstock upon the rooting of vine grafts, by Dimitrije Mitovic
The possibility of early weaning of suckling pigs when 1 to 3 weeks old, by Jovan Kostic

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 80. 29 July 63, 15p. JPRS: 20384.
Order from OTS $0.50 63-31400

Trans. of Partiinaya Zhizn' Kazakhstana (USSR) 1963 [v. 33] no. 11, p. 45-46 and from Kazakhstanskaya Pravda (USSR) 1963, 9 June, p. 1; Kommunist Tadzhikistana (USSR) 1963, 11 June, p. 3; Rabochaya Gazeta (USSR) 1963, 2 June, p. 1; Pravda Ukrainy (USSR) 1963, 25 May; Sovetskaya Kirgiziya (USSR) 1963, 24 May, p. 2; Sovetskaya Litva (Lithuania SSR) 1963, 25 May, p. 2.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Wrought iron, Cereals, Aerosol generators, Management engineering, Agriculture, Lithuania.

LIME-QUANTITY COMPUTER FOR IMPROVING OF ACID SOIL. 13 June 63, 9p. 399/52 Japan.
Order from INT $27.00

Trans. of Japanese patent 399/52 by Keiichi Sugiyama., filed 1 May 50.

DESCRIPTORS: *Soils, Acids, *Limestone, Additives, Computers.

Contents:
Determination of wrought iron composition
Rotary cultivator discs for grain growers
The OTN-4-8 duster/sprayer, by G. Avanesov
The committee for party and state control of the Bryansk Industrial Obkom of the CPSU and the Oblispolkom
Wide-span harvester production
Criticism of agricultural machinery production in the Ukraine
Shortage of cultivator teeth in Lithuania, by N. Mitrokhin

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 81. 5 Aug 63, 21p. JPRS: 20492.
Order from OTS $0.75 63-31449

Trans. of Kommunist Sovetskoi Latvii (Latvian SSR) 1963 [v. 19] no. 6, p. 21 and 12 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, *Industrial plants, Construction, *Conveyors, *Trailers, *Air conditioning equipment.

Contents:
Specialization of agricultural machine building (excerpt)
Criticism of Tikhvin foundry and welded parts products plant construction, by B. Chertkov
New Ukrainian-built farm machinery
Progress in the construction of the main conveyer at the Kirov plant
Difficulties at the Tselinograd Kazakhsel'mash plant, by T. Kazakhsel'
Combine production

Farm machinery production at Ryazan' agricultural machinery plant
Taganrog combine plant production is ahead of schedule
Stricter observance of cooperative deliveries is required
Plan fulfillment has improved, by V. Lisitsin and E. Dundukov
The ten-thousandth Khersonets-3 combine harvester
Tashkent motor vehicle plant completes plan ahead of schedule
Khar'kov plant to produce air conditioners for farm machinery.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 82.
9 Aug 63, 14p. JPRS: 20564.
Order from OTS $0.50 63-31485

Trans. of 11 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Handling, *Cargo vehicles, Hoists, Furnaces, *Diesel engines, *Maintenance.

Contents:
The PU-05 loader
Plant production structure
Combines for the sugar industry
There are ten thousand combines
Miscellaneous want ads
Engine plant -- into production
For you, the viticulturists and tea growers, by N. Boiko
"Sakartvelo" on the plantations
Sharply increase the rate of repair of harvesters
Minsk grain combine attachments
Livepaya plant director.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 83.
12 Aug 63, 33p. (photo omitted). JPRS: 20587.
Order from OTS $1.00 63-31499

Trans. of Byulleten'Tekhniko-Eknomicheskoi Informatsii (USSR) 1963, no. 5, p. 52-58; Mashinostroitel' (USSR) 1963, no. 6, p. 14; Traktory i Sel'khozmashiny (USSR) 1963 [v. 33] no. 6, p. 1-5, 42-44; and 13 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Handling, Transportation, Diesel engines, Maintenance, Industrial plants, Quality control, Industrial procurement.

Contents:
Potato harvesting combine production difficulties, by M. Ruderman
New tractor mounted loader
Tractor drawn rake shipping difficulties at the Frunze plant
Building aid to Cheboksary tractor spare parts and Orenburg Avtozapchast' plants, by V. Lisitsin and E. Dundukov
New equipment for reclamation of brushland
Development of new harvesting machines
PZ-10 kolos unit seed treater
The ZPA-100 grain loader
New assembly lines at Minsk motor plant
Above plan engine repair at Rostokinsk motor repair plant, by L. Berdichevskii and S. Cherepashechuk
Progress of reconstruction at Altai Krai tractor and machine building plants
New planters undergoing tests
New KSZ-1 beet harvesting combine (partial translation)
Delivery of incomplete farm equipment to kolkhozes and sovkhozes, by N. Demikhovskii
Sets of machines for the direct-flow harvesting of grain and non-grain particles of grain crops, by N. V. Filatov and M. K. Komarova
Devices for mounting tooth harrows on cultivators, by S. O. Khaustov and L. F. Zhigarev
Development of families of wheel and crawler tractors on a basis of MTZ-50 tractor, by V. V. Voitikov
Improvement of quality is the most important problem of the tractor builders, by V. A. Semenov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 84.
12 Aug 63, 25p. JPRS: 20594.
Order from OTS $0.75 63-31503

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 4, p. 56-65 and 15 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Industrial plants, *Diesel engines, Cleaning, Cereals, Transportation.

Contents:
Machines and attachments for harvesting grain-leguminous crops, by N. V. Gerasimov and others
Khar'kov production increases
Tashkent machine builders must put forth greater effort
Improved grain cleaning facilities needed for Tselinnyi Krai
Equipment tested at the central machine testing station
Success of the Kirovograd Tshervona Zirka plant
Delays at the Znamyanka branch of the Odessa railroad
Specialization of the Ukrainian industry, by P. Zmaga
T28-Kh2 tractors
Fifty thousandth engine produced
Tractor produced
New plows undertaken by Odessa plant
Liepaya production
Eight-thousandth Khersonets-3 produced
Belorussian ministry of construction must be influenced
Lida plant produces UDB-3 haulm remover.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 85.
20 Aug 63, 13p. JPRS: 20718.
Order from OTS $0.50 63-31574

Trans. (some in part) of Byulleten' Tekhniko -Eknomicheskoi Informatsii (USSR) 1963, no. 6, p. 56-70; Tekhnika v Sel'skom Khozyaistve (USSR) 1953 [v. 23] no. 6, p. 11-14, 38-40; and from Leninskoe Znamya (USSR) 1963, 14 July, p. 2; Pravda Ukrainy (USSR) 1963, 5 July; Sovetskaya Estoniya (Estonian SSR) 1963, 23 July, p. 2; Sovetskaya Kirgiziya (USSR) 1963, 25 July, p. 3

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Corn, Potatoes, Vegetables, Plants (Botany), Soils, Fertilizers, Cereals, Fibers (Natural).

Contents:
Rototilling cultivators, by Yu. A. Kuznetsov
Wide-swath tractor-mounted 3KNSh-2.8 boom-type cultivator, by L. F. Zhigarev
RU-4 fertilizer spreader, by N. I. Polunin
High-production, wide-swath, ZhB-15 and ZhVN-7-14 windrowers, by G. T. Myagkov
Full mechanization of fiber-flax harvesting by the two-phase method, by I. M. Makhov
New equipment for agriculture, by L. Raud
Machines for cultivation and harvesting of sugar beets, by P. Volkov
SKNK-6 corn planter, by S. Pivovar
Eighty tractors assembled daily
Ensilage combines for tall corn
Khar'kov and Leningrad tractors tested.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. NO. 87. 27 Aug 63, 12p. JPRS: 20823.
Order from OTS $0.50 63-31631

Trans. of Traktory i Sel'khozmashiny (USSR) 1963 [v. 33, no. 7] p. 22-24, 32-34, 48.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Earth-handling equipment, Conferences, Agriculture.

Contents:
The development of a complex of soil cultivating machines for regions suffering from wind erosion, by A. A. Plishkin and V. V. Trufanov
The "KDUYe-16-Omichka" conveyor-ring milking installation, by A. A. Ivanov
The KYaSh-60 hole digger, by R. S. Sultanov
Conference on the Mechanization of Cultivation and Harvesting of Potatoes [Feb 63], by A. I. Kalamin.

Carsenbrud, Petreus Johanes Koneries.
METHOD FOR CONCENTRATING UREA SOLUTION TO A MELT SCARCELY CONTAINING WATER. July 63, 10p. (figs. omitted) 1 ref.
Order from SA $19.00 SA Code-P-209

Trans. in manuscript of published Japanese patent 15833/1962, cl. 4-D-15 (16-B-811) appl. no. 30759/1957 filed 13 Dec 57, pub. 5 Oct 62, by Stami Carbon N. V., Holland.

DESCRIPTORS: *Fertilizers, *Urea, Particles, Water, Evaporation.

Fukumoto, Goichiro and Hamamoto, Masao.
METHOD OF MAKING GRANULAR COMPOSITE FERTILIZER CONTAINING TWO COMPONENTS OF NITROGEN AND POTASSIUM. July 63, 7p.
Order from SA $16.00 SA Code-P-174

Trans. of published Japanese patent 7564/1962, cl. 4-D-41 (4-A-24) appl. no. 44007/1960 filed 7 Nov 60, pub. 9 July 62, by Mitsubishi Chemical Industries, Ltd.

DESCRIPTORS: *Fertilizers, Particles, Production, *Nitrogen, *Potassium, *Ammonium compounds, Potassium compounds, Sulfates, Chlorides, *Urea, *Gypsum.

Hester, William Fredric.
GERMICIDE MIXTURE. July 63, 8p.
Order from SA $16.00 SA Code-P-192

Trans. in manuscript of Japanese patent 198,456, published patent 5050/1952, cl. 30-F-37, appl. no. 12635/1951 filed 27 Sep 51 (convention date: 20 Aug 41, U. S. A) pub. 1 Dec 52, by Rohm & Haas Co., U. S. A.

DESCRIPTORS: *Plants (Botany), *Seeds, Sprays, *Germicides, *Insecticides, Mixtures, *Ethylene derivatives, Thio radicals, *Carbamates, *Sodium compounds, *Iron compounds, *Copper compounds, Salts

Rubenchik, L. I.
AZOTOBACTER AND ITS USE IN AGRICULTURE, tr. by A. Artman. 1963, 278p. 404 refs. PL-480 Agr.
Order from OTS $3.00 63-11076

Trans. of mono. Azotobakter i Ego Primenenie v Sel'skom Khozyaistve, Kiev, 1960 [327p.]

DESCRIPTORS: *Azotobacteraceceae, Agriculture, *Fertilizers, Culture media, Morphology (Biology), Ecology, Physiology, Taxonomy, Microorganisms, Plants (Botany), Animals, Food.

This book is a monograph containing the most recent and much new information on the structive metabolism, and ecological relationships of Azotobacter, and its use as a bacterial fertilizer.

Animal Husbandry

AMINO ACIDS (Aminosyrer). [1962] [20]p.
Order from SLA $1.60 62-20275

Trans. of Swedish language mono. Bilag til Landøkonomisk Forsøgslaboratoriums Efterårsmøde, n. p., 1961, p. 187-201.

DESCRIPTORS: *Amino acids, Food, Proteins, Swine, Animals.

Borgioli, E. and Bonsembiante, M.
A NEW INDUSTRIAL FEED: THE PROTEIN CONCENTRATE OF BEETS, AND ITS APPLICATION IN CATTLE FEEDING. [1963] 16p. (table omitted).
Order from SLA $1.60 63-16163

Trans. of Agricoltura delle Venezie (Italy) 1957 [v. 11] Nov/Dec, p. 594-608.

DESCRIPTORS: Food, *Cattle, *Proteins, *Beets, Nutrition.

The employ of the beet protein concentrate (C. P. B.) has led to positive results. This material makes the food offered tasty to animals, if mixed together, is dietetically tolerable, the digestive functions are not impaired, an animal being fed this way remains in good health. The administration of daily doses of 1-1.2 kg of C. P. B. in addition to the hay offered, which contains numerous plants, (it is mediocre and actually low in proteins), and of dried beet pulp, has led to bring about a good protein balance, which was right both for calves to be fattened for meat, and for dairy cows, which gave 10-12 kg milk daily. The absence of greater differences, which are statistically significant, between the control groups and the experimental ones, both with respect to weight increase of calves and milk production of cows, if one replaces 0.7 kg of soy bean flour by 1.05 kg of C. P. B., show that 1.5 kg of the new feed are indeed equivalent to 1 kg of extracted soy bean flour. The doses used as calculated for a balanced diet, with respect to the protein contents, allow us to derive that the food value of the C. P. B. is 70 feed units per quintal, and that the utilization of the protein- N and the non-protein- N of the new feed is practically the same as the identical utilization of soy bean flour. (Author)

Plant Cultivation

AGENT FOR EXTERMINATING HARMFUL SOIL INHABITANTS. 20 June 63, 11p. 17995/62 Japan.
Order from INT $31.50

Trans. of Japanese patent 17995/62 by Hokkai-Sankyo Kabushiki Kaisha, filed 31 Mar 60.

DESCRIPTORS: *Soils, Fungicides, *Microorganisms, Sporicides.

IMPROVED ANTIFUNGUS COMPOSITION. 18 June 63, 5p. 11698/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 11698/62 by Rohm and Haas Co., USA, filed 15 Sep 59.

DESCRIPTORS: *Fungicides.

MANUFACTURING PROCESS FOR PHOSPHATE FERTILIZER. 13 June 63, 10p. 5765/53 Japan.
Order from INT $28.50

Trans. of Japanese patent 5765/53 by Tokuyama Soda Co. Ltd., filed 25 Sep 51.

DESCRIPTORS: *Phosphates, *Fertilizers, Manufacturing methods.

METHOD FOR MANUFACTURING OF PHOSPHATE FERTILIZER. 14 June 63, 10p. 3722/56 Japan.
Order from INT $30.00

Trans. of Japanese patent 3722/56 by Tokuyama Soda Co. Ltd., filed 14 Dec 53.

DESCRIPTORS: *Phosphates, *Fertilizers.

METHOD FOR MANUFACTURING OF PHOSPHATE FERTILIZER. 20 June 63, 6p. 1571/58 Japan.
Order from INT $16.50

Trans. of Japanese patent 1571/58 by Tokuyama Soda Co. Ltd., filed 29 May 53.

DESCRIPTORS: *Phosphates, *Fertilizers, Manufacturing methods.

Jung, Johann; Muller von Blumencron, Hans-Ottmar and others.
USE OF NITROGEN FERTILIZERS OF SLOW AND SUSTAINED ACTION. [1963] 5p. 1 ref.
Order from OTS or SLA $1.10 63-16253

Trans. of German patent 1,081,482, cl. 16,14, internat. cl. C 05 c, filed 4 Feb 59 (notice of application and issuance of provisional patent, 12 May 60) issued 17 Nov 60, identical with provisional patent B51,976 IVa/16, by Badische Anilin- & Soda-Fabrik A.G.

DESCRIPTORS: Nitrogen, *Fertilizers. *Urea, Preparation, Absorption (Physiology), *Acetaldehydes, Condensation reactions.

The invention involves the use of crotonylidene diurea as nitrogen fertilizer of slow and sustained action, possibly in mixture with other fertilizers. (Author)

Kolesnik, Z. V.
FORMATION OF INFLORESCENCE IN GRAPEVINES (VITIS VINIFERA L.) DURING WINTER AND SPRING IN RELATION TO INCREASED FRUIT YIELD (Formirovanie Sotsvetii Vinograda (Vitis Vinifera L.) v Zimne-Vesennii Period v Svyazi s Uvelicheniem Plodonosnosti) tr. by B. Ribush. [1963] [11]p. (foreign text included) 19 refs. [CSIRO] Trans. no. 6189.
Order from OTS or SLA $1.60 63-19605

Trans. of Botanicheski Zhurnal (USSR) 1959, v. 44, [no. 12] p. 1730-1734.

DESCRIPTORS: *Plants (Botany), *Fruits, Reproductive system, Growth, Ecology, *Vitaceae.

Kolesnik, Z. V.
PRODUCTIVITY OF BUDS ON LATERALS (Plodonosnost' Pochek na Pasynkakh) tr. by A. Neal. [1963] [6]p. (foreign text included). [CSIRO] Trans. no. 5780.
Order from OTS or SLA $1.10 63-19597

Trans. of Sadovodstvo, Vinogradarstvo i Vinodelie Moldavii (USSR) 1957 [v. 12] no. 3, p. 34-35.

DESCRIPTORS: *Plants (Botany), Reproductive system, Production, Growth, *Vitaceae.

Kolomiets, I. A.
THE PHYSIOLOGICAL EFFECT OF PRUNING (Fiziologicheskoe Deistvie Obrezki). July 63 [6]p. 1 ref. RTS-2305.
Order from OTS or SLA $1.10 63-23241

Trans. of [Sadovodstvo] (USSR) 1957 [v. 97] no. 12, p. 34-36.

DESCRIPTORS: *Trees, Fruits, Moisture, Growth, Physiology.

It was established that the physiological effect of severe and rejuvenating pruning consists mainly in improving the water regime of the plants. On hot and dry days, the water supply of the aerial parts, including the growing tips of the branches, is increased, which results in reduced cell-sap concentration, better use of minerals (especially nitrogenous substances), and increased photosynthesis, oxidising processes and metabolism. Hence pruning promotes more intensive and prolonged growth of branches, and the change of fruiting spurs into growth shoots, and it prevents development of flower buds on many spurs while permitting moderate flowering and fruiting. (Author)

Leman, V. M. and Fantalov, O. S.
PLANT CULTURE WITH XENON LAMPS. [1963] 4p. 4 refs.
Order from OTS or SLA $1.10 63-16726

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 141 [no. 4] p. 987-990.

DESCRIPTORS: *Plants (Botany), *Xenon lamps, Light, Growth, *Photosynthesis, Biochemistry.

Lewicki, S., Ruszkowska, B., and Ruszkowski, M.
STUDIES ON BUCKWHEAT. PT. VI. VARIABILITY OF YIELDS WITHIN VARIOUS BUCKWHEAT VARIETIES AND POPULATIONS (Studia nad Gryka. Cz. VI. Zmiennosc Plonowania w Obrebie Roznych Odmian i Populacji Gryki) tr. by Maria Radziwill. 1963, 8p. 2 refs. PL-480 Agr.
Order from OTS $0.50 61-31253

Trans. of Hodowla Roslin, Aklimatyzacja i Nasiennictwo (Poland) 1958, v. 2, no. 4, p. 561-565.

DESCRIPTORS: *Buckwheat, Growth, *Cereals, *Genetics, *Seeds, Plants (Botany), Agriculture, Fertility.

This study demonstrated that the Puławska and Bogatyr varieties of buckwheat, characterized by longer stems, a greater number of inflorescences and a higher straw yield, give a better grain yield than other varieties and populations in which these characteristics are less pronounced. (Author) (See also 61-11396)

Mikhailov, V. V.
PRODUCTION OF PHOSPHATE FERTILIZERS OUTSIDE THE USSR. II. DECOMPOSITION OF PHOSPHORITES WITH SULPHURIC ACID (Proizvodstvo Fosfatnykh Udobrenii za Granitsei. II. Razdozhenie Fosforitov Sernoi Kislotoi). [1963] [14]p. (foreign text included) 16 refs.
Order from OTS or SLA $1.60 63-18140

Trans. of [Khimicheskaya Promyshlennost'] (USSR) 1941, v. 18 [no. 2] p. 28-31.

DESCRIPTORS: *Fertilizers, Phosphates, Decomposition, *Phosphorites, *Sulfuric acid.

Tadic, M.
THE BIOLOGY OF THE CODLING MOTH (CARPOCAPSA POMONELLA L.) AS THE BASIS FOR ITS CONTROL. 1963, 97p. 135 refs. PL-480 Agr.
Order from OTS $1.00 60-21681

Trans. of mono. Jabucni Smotavac (Carpocapsa Pomonella L.) Biologija Kao Osnova za Njegovo Subzbijanje, Belgrade U., 1957, 100p.

DESCRIPTORS: *Lepidoptera, Biology, Taxonomy, Insect control, *Fruits, Morphology, Insecticides.

Zankov, Zdravko D. and Todorov, Khristo.
NON-AXILLARY SHOOTS ON THE GRAPEVINE (Vnepazushnye Pobegi Vinogradnoi Lozy) tr. by B. Ribush. [1963] [4]p. (foreign text included). [CSIRO] Trans. no. 6255.
Order from OTS or SLA $1.10 63-19973

Trans. of Agrobiologiya (USSR) 1962, no. 1, p. 154-155.

DESCRIPTORS: *Plants (Botany), Growth, Fruits, *Vitaceae.

ASTRONOMY

Astrophysics

Barabashov, N. P.
PHYSICAL CONDITIONS ON MARS (Fizicheskie Usloviya na Marse). Aug 63, 11p. NASA Technical Trans. F-165; N63-19862.
Order from OTS $0.50 63-11691

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 10, p. 18-25.

DESCRIPTORS: *Mars, *Planets, *Extraterrestrial topography, Physical properties, *Astronomy, Astrophysics,

A discussion is presented in an effort to clarify what is reliably known about Mars, what is in the realm of more or less probable conjecture, and finally what is still completely unexplainable. Significant areas for future research toward determining the physical aspects of planets are indicated. (NASA abstract)

Krat, V.
ON THE POSITIVE CHARGE OF THE SUN (O Polozhitel'nom Zaryade Solntsa). 11 June 63 [7]p. 5 refs. AID Rept. T-63-82; [NASA] N63-17927; AD-408 477. Order from OTS or SLA $1.10 63-19966

Trans. of Akademiya Nauk SSSR. Doklady, 1947, v. 55, no. 3, p. 207-210.

DESCRIPTORS: *Sun, *Solar corona, *Charged particles, Electric potential, Protons, Electrons, Analysis.

Krotikov, V. D.
SOME ELECTRICAL CHARACTERISTICS OF THE EARTH ROCKS AND THEIR COMPARISON WITH THOSE OF THE SURFACE LAYER OF THE MOON (Nekotorye Elektricheskie Kharakteristiki Zemnykh Prood i Ikh Sravnenie s Kharakteristikami Poverkhnostnogo Sloya Luny) tr. by A. Pingell. 12 June 63, 7p. 7 refs. NRL Trans. no. 941.
Order from OTS $0.50 63-11683

Trans. of #Izvestiya Vysshikh Uchebnykh Zavedenii. Radiofizika (USSR) 1962, v. 5, no. 6, p. 1057-1061.

DESCRIPTORS: *Rock (Geology), *Earth, *Moon, Surface properties, *Electrical properties, *Dielectric properties, Radio astronomy, Extraterrestrial topography, Density, Correlation techniques.

It has been experimentally proven that tan Δ for the earth rocks in the band ranging from 0.8 to 10 cm is not dependent on the wavelength, and that values tan Δ/ρ and $(\sqrt{\varepsilon}-1)/\rho$ are invariant with respect to the density ρ. On the basis of the well-known for the lunar surface magnitude tan Δ/ρ, a determination was made of a group of earth rocks having the same value tan Δ/ρ, and, probably, corresponding to the rocks forming the external cover of the moon. From the invariant value $(\sqrt{\varepsilon}-1)/\rho$, which was found for the earth rocks (in the assumption that its value is retained for the lunar rocks), an estimate was obtained for the density of the matter of the external lunar cover: $0.2 \leq \rho \leq 0.7$. This is in good agreement with the density values obtained from other data. (Author)

Mikhailov, A. A.
THE ASTRONOMICAL UNIT OF LENGTH. Feb 63 [27]p.
Order from OTS or SLA $2.60 63-14732

Trans. of #Astronomicheskii Zhurnal (USSR) 1962, v. 39, no. 4, p. 569-582.

DESCRIPTORS: *Astronomy, *Ranges (Distance), *Range finding, Earth, Planets, Measurement, Triangulation, Doppler systems, Gravimeters, Radar equipment, Sun.

The basic principles and results of the determination by the trigonometric, dynamic, spectroscopic and radar methods of the astronomical unit of length and the solar parallax are discussed. Some of the sources of uncertainty of these determinations are pointed out and possible errors evaluated. Future possibilities are considered. (Author)

Pecker, Jean-Claude.
A CONTRIBUTION TO THE SPECTRAL TYPE THEORY. IV. FORMATION OF LINES IN STELLAR SPECTRA (Contribution à la Théorie du Type Spectral. IV. La Formation des Raies dans les Spectres Stellaires). Aug 63, 54p. 45 refs. NASA Technical Trans. F-116.
Order from OTS $1.50 63-11695

Trans. of Annales d'Astrophysique (France) 1951, v. 14, no. 1, p. 115-151.

DESCRIPTORS: *Solar spectrum, Stars, Absorption spectrum, *Line spectrum, Sun, Equations, Mathematical analysis, Solar atmosphere, Atmosphere models.

A method for computing the intensity of stellar spectral lines is presented in simple fashion by writing equivalent widths in a general form. The method is a generalization, extended to the "average" or "strong" absorption lines, of a method proposed by Unsöld, and subsequently approached in a different manner by Minnaert, that made it possible to calculate the intensity in the "wings" of a line, or the equivalent width of "weak" lines. (Author)

Stepanov, V. E.
DETERMINING THE TEMPERATURE OF SUN SPOTS (K Voprosu Opredeleniya Temperatury Solnechnykh Pyaten). July 63 [37]p. 12 refs. RTS 2260.
Order from OTS or SLA $3.60 63-23251

Trans. of [Moscow U.] Gosudarstvennyi Astronomicheskii Institut. Soobshcheniya (USSR) 1957, v. 100, p. 3-35.

DESCRIPTORS: *Sunspots, Sun, Temperature, Light, Scattering, Photometers, Measurement.

The article deals with the problem of devising a method for determining corrections for scattered light and obliteration when making photometric measurements of solar features and its application to determining the temperature of sun spots.

Tsesevich, V. [P.].
COMPUTATIONS OF THE ELEMENTS OF THE ORBITS OF THE ECLIPSING STARS OF THE TYPE OF ALGOL: TABLES. [1963] [48]p. (foreign text included).
Order from OTS or SLA $4.60 63-14920

Trans. of [Akademiya Nauk SSSR. Institut Teoreticheskoi Astronomii. Byulleten'] n.d., v. 3, no. 45, p. 115-152.

DESCRIPTORS: *Stellar eclipses, *Variable stars, *Stars, Optical properties, Mathematical analysis, Astronomical data, *Tables, Astronomy, Photometry.

Tsesevich, V. P.
PHOTOMETRIC PHASES OF THE ECLIPSES OF VARIABLE STARS OF THE ALGOL TYPE: TABLES. [1963] [37]p. 6 refs.
Order from OTS or SLA $3.60 63-14921

Trans. from [Akademiya Nauk SSSR. Institut Teoreticheskoi Astronomii. Byulleten'] n.d. [v. 3] no. 50.

DESCRIPTORS: *Stellar eclipses, *Variable stars, Optical properties, Mathematical analysis, Astronomical data, Tables, Astronomy, *Stars, Photometry.

The paper consists of two parts. In the first part the photometric phases for an annular eclipse are computed. The computations are based on the assumption that the darkening of the disk of the eclipsed star towards its edge follows the cosine law. Complete tables of these quantities are given. In the second part tables are computed of the photometric phases (to five decimal places) for the hypothesis of a uniform disk and different laws for the darkening towards the limb. (Author)

BEHAVIORAL SCIENCES

Gsell, O.
SMOKING HABITS IN A VILLAGE COMMUNITY IN SWITZERLAND. [1963] 15p. 8 refs.
Order from SLA $1.60 63-16909

Trans. of Schweizerische Medizinische Wochenschrift, 1958, v. 88, no. 15, p. 349-353.

DESCRIPTORS: *Cigarettes, *Smokes, *Tobacco, Urban areas, Rural areas, Behavior, Switzerland.

Investigations were carried out on smoking habits of a rural population in Switzerland. The data from 1635 adult persons in a community near Zurich, showed 45.2% non-smoking men and 96.3% non-smoking women. During the age period of highest tobacco consumption 38.9% of the men and 95.2% of the women were non-smokers. The rate of non-smokers is, in Swiss rural districts, higher than in towns, in farmers (53%) higher than in non-farmers of the rural polulation (46.3%). Within the different age groups in the rural population between 35 and 65 years of age about 60% are habitual smokers. With increased age light smokers predominate. Among smoking farmers the Stumpen (a sort of Swiss cigar) and pipe-smokers are the most common (71%), rural nonfarmers only 36%. Among smoking Swiss physicians 79% were found to be cigarette smokers, amongst town factory workers 81.4%, amongst rural non-farmers 64%, but amongst farmers only 25%. Those women in rural districts who smoke are entirely cigarette smokers. Inhaling among the rural population seems more infrequent than in town, among cigarette smoking farmers 27%, other country people 67%, town labourers 65%, 68% of the rural cigarette smokers use a filter. Tobacco material is fully utilized by the Swiss rural population, even Stumpen are smoked to the end in 71% of the cases. (Author)

BIOLOGICAL SCIENCES

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 252 (BIOLOGY AND MEDICINE SERIES). 29 July 63, 10p. JPRS: 20380.
Order from OTS $0.50 63-31397

Abstract trans. of Archiv für Experimentelle Veterinärmedizin (East Germany) 1963, v. 17, no. 3, p. 499-505, 507-523, 525-561, 563-613, 615-631, 633-634, 645-677.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, *Veterinary medicine, Milk, Immunity, Immune serums, *Viruses, *Blood, Surgery, Vaccines, *Salmonella.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 267 (BIOLOGY AND MEDICINE SERIES). 15 Aug 63, 19p. JPRS: 20648.
Order from OTS $0.75 63-31536

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Hungary.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Diseases, *Pharmacology, Cancer, Pathology, Radiation effects, Heart, Drugs, *Surgery, Biochemistry, Endocrine glands, Industrial medicine, Neurology, Psychiatry, Neoplasms.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 268 (BIOLOGY AND MEDICINE SERIES). 14 Aug 63, 27p. JPRS: 20656.
Order from OTS $0.75 63-31539

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Yugoslavia.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Mosses, Plants (Botany), Gastropoda, Insects, Tissues (Biology), Pollen, Birds, Cells (Biology), Insect control, *Diseases, Edema, Steroids, Hematology, Body fluids, Surgery, Pathology, Ear, X rays, Cancer, Psychiatry, Deafness, *Radiobiology, Fats, Diagnosis, Physiology, Birth.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 269 (BIOLOGY AND MEDICINE SERIES). 16 Aug 63, 13p. JPRS: 20675.
Order from OTS $0.50 63-31547

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Diseases, Cardiovascular system, Cancer, Obesity, Metabolism, Surgery, Pathology, Antigens and antibodies, Body fluids, Medical personnel, Public health, Metal poisoning, Respiratory system, Radiation measurement systems, Carcinogenic agents, Noise, Industrial medicine.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 272 (BIOLOGY AND MEDICINE SERIES). 19 Aug 63, 16p.
JPRS: 20697.
Order from OTS $0.50 63-31563

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Hungary.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Drugs, *Psychiatry, Children, Neurology, Atherosclerosis, Abnormal psychology, Hospitals, Electroencephalography, Burns, First aid, Inflammation, Surgery, Communicable diseases, Gynecology, Blood proteins, Heart, Anticoagulants.

FEDERATION PROCEEDINGS TRANSLATION SUPPLEMENT, VOL. 22. NO. 1, PT. II. P. T3-T192. Jan-Feb 63, 1v.
Order from FASEB $2.00, $10.00/year

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1962, v. 17, no. 3, p. 74ff; Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1962, v. 42, no. 2, p. ##61-[65] 66-[68]; Arkhiv Patologii (USSR) 1962, v. 24, no. 4, p. 13-[18] 38-[49]; #Fiziologicheskii Zhurnal SSSR, 1962, v. 48, no. 1, p. 55-[65]; no. 2, p. 145-[149] 207-[212]; no. 3, p. ##279-[289] 290-[302] 314ff.; no. 4, p. ##455-[463] 464-[479]; Klinicheskaya Meditsina (USSR) 1962, v. 40, no. 2, p. 112-[125]; no. 3, p. ##126-[129]; Meditsinskaya Radiologiya (USSR) (USSR) 1962, v. 7, no. 1, p. ##10-[15] 62-72; no. 4, p. 30-[35] 79-80, 83-[84]; Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 1, p. 25-[44] 95-[100]; no. 2, p. 96-[101]; no. 4, p. 53-[57]; no. 5, p. 10-[17] 42-[49] 53-[59]; Tsitologiya (USSR) 1962, v. 4, no. 1, p. 42-[51] 59-[63] 68-[71] 80-[83] 88-[90]; Vestnik Rentgenologii i Radiologii (USSR) 1962, v. 37, no. 1, p. 23-[29] 50; Voprosy Pitaniya (USSR) 1962, v. 21, no. 2, p. 11-[16]; #Zhurnal Vysshei Nervnoi Deyatel'nosti (USSR) 1962, v. 12, no. 1, p. 37-[39] 145-[154] 169-[172]
##Other translations are available elsewhere.

DESCRIPTORS: *Biology, *Medicine, *Physiology, *Pathology, *Acclimatization, *Hypercapina, Antarctic regions, Brain, *Bioelectronics, *Electroencephalography, *Skin, Radiation effects, Nephritis, *Glycoproteins, *Hypothermia, *Blood circulation, Lungs, Angiography, *Atherosclerosis, *Hypertension, *Oxygen consumption, *Pancreas, Intestines, *Hyperglycemia, *Autonomic agents, *Exercise, *Cholinesterase, Fishes, *Ascorbic acid, Iodine, Cholesterol, *Liver, Bone, Thyroid gland, *Cancer, *Embryos, *Ultraviolet radiation, *Ultrasonic waves, Microorganisms, *Brucellosis, Microsomes, Ribonucleic acids.

Contents:

##Some physiological changes in man in the process of acclimatization in inland regions of Antarctica, by I. I. Tikhomirov
Reflection of respiratory center activity during terminal states in electrograms of the medulla oblongata, by A. M. Gurvich
##Changes in electrical activity of different brain regions in cats and dogs exposed to carbon dioxide, by Yu. N. Ivanov
Electroencephalographic study of cortical representation of human reproductive system during childbirth, by L. I. Lebedeva
Skin sensitivity in persons working in total darkness and in light, by V. P. Kamchatnov
Activation of the rabbit electroretinogram and its relation to the orienting reflex, by E. N. Sokolov and M. V. Lomonosov
Changes in the activity of the central nervous system in the offspring of irradiated rats, by M. S. Alekseeva
Pathogenesis of hemorrhagic nephroso-nephritis in experimental damage to hypothalamo-hypophyseal region, by N. A. Levkova and G. V. Kestner
##The glycoprotein component of neurosecretory products, by E. I. Tarakanov and V. F. Maiorova
Cardiovascular changes in induced craniocerebral hypothermia, by V. V. Suvorov
Blood supply of the inferior olivary nucleus, by N. A. Gudkova
Determination of the velocity of the pulmonary arterial pulse wave as a means of studying the hemodynamics of pulmonary circulation, by I. Kh. Rabkin and E. A. Grigoryan
Angiographic diagnosis of the superior vena cava syndrome, by E. P. Dumpe
Incidence of aortic atherosclerosis in the hot climate of the Fergana Valley, Uzbek SSR, by M. Ya. Laufer
Comparison of electrokymographic and clinical data in chronic coronary insufficiency, by V. N. Orlov
Lipoproteins of the blood serum in patients with arterial hypertension, by G. V. Kalugina
Dynamics of the arterial pressure in total-body irradiation of rats, by I. S. Kanfor
Study of capillary blood flow using radioactive I^{131}, by I. G. Matchenko
State of blood coagulation at different stages in arterial hypertension, by A. F. Mel'nikov
Prethrombotic tendency in arterial hypertension, by K. G. Urbanyuk
Phylogenetic and ontogenetic patterns in development of reflex regulation of cardiac activity and respiration in animals, by D. A. Biryukov and others
##Prolonged breathing of a gas mixture high in O_2 and low in CO_2 at rest and during exercise, by S. A. Brandis and V. N. Pilovitskaya
Comparative value of methods for testing bronchial patency, by M. S. Shneider
Elevation of oxygen consumption in rats during irradiation, by A. Vacek
Shield, fluorograph tube, and cone for the F-55 fluorograph, by I. A. Golubchin
Characteristics of blood supply of the pancreas during different phases of its activity, by E. K. Kuznetsova
Studies of intestinal motility in man by balloon kymography: I, "Hunger" motility of the jejunum in healthy subjects, by V. G. Khlystov and O. L. Kolosova
Anal tonometry, by V. G. Yanchev
Alimentary hyperglycemia and intestinal glucose absorption following autonomic ganglion block by gangliolytic agents, by I. A. Drzhevetskaya
Oxygen consumption and lactic acid content of blood during strenuous muscular exercise, by N. I. Volkov
Relation of muscle and cholinesterase thermostability in certain fishes to specific environmental temperature conditions, by A. A. Kusakina
Participation of the cerebral cortex in the regulation of vitamin C metabolism, by V. S. Kulikova
Ascorbic acid exchange during the action of X-rays on the organism, by Z. Ya. Dolgova
Effects of prolonged intake of sunflower oil on experimental hypersion, by T. A. Braksh
Effect of iodine treatment on lipid, protein, and lipoprotein fractions of the blood and on basal metabolism of patients with atherosclerosis, by N. Ya. Pitel'
##Effect of certain vegetable oils on cholesterol and lecithin levels in atherosclerosis patients, by A. M. Pleshkov
Use of C^{14} benzoic acid to determine the synthetic detoxifying function on the liver in man, by A. A. Shatalova and G. I. Meerov

A new rapid method for determining Sr^{90} content in bone, by M. M. Golutvina and others
Investigation of thyroid gland function by the use of radioactivity detectors in the presence of some diseases of the internal organs, by A. K. Abylov and N. M. Mukharlyamov
Functional changes in the thyroid as a general irradiation reaction following treatment of patients with cancer of the cervix, by N. A. Pisareva
##Long-term observations of persons receiving radiotherapy, by M. P. Domshlak and others
Investigation of potassium-sodium exchange rate in erythrocytes in cardiac insufficiency by use of radioisotopes, by Z. M. Belova
Morphology of some renal hypertensions, by E. V. Uranova
Blood sodium, potassium, and chloride levels in circulatory insufficiency, by G. S. Chudnovskii
Iron in cells and tissues of early human embryos, by Yu. N. Shapovalov
A simple method of ultraviolet microbeam irradiation of organelles of living cells, by A. P. Dubrov
Effect of ultrasonic waves on microorganisms during sterilization of blood preparations, by V. M. Malkina
Rehabilitation prognosis in brucellosis, by V. N. Leiman
Content of ribonucleic acid in mitochondria of normal and tumor tissues, by L. S. Mil'man and V. A. Kuzyaeva
Effect on sarcolysine-sensitive tumors of nucleoproteins from sarcolysine-resistant tumors, by D. Ya. Podgayetskaya and others

HYDROBIOLOGY: [SELECTED] TRANSLATIONS.
29 July 63, 114p. 162 refs. JPRS: 20386.
Order from OTS $2.50 63-31402

Trans. of Vsesoyuznoe Gidrobiologicheskoe Obshchestvo. Trudy (USSR) 1961, v. 11, p. 117-121, 171-188, 299-308, 323-344, 354-369, 394-410.

DESCRIPTORS: *Marine biology, Aquatic animals, *Mollusca, *Dams, *Fish, Ecology, Water supplies, Contamination, *Sanitary engineering, Epidemiology, Plants (Botany), Rivers, Shellfish, Industrial production, Food.

Contents:
Some data on the reproduction of Dreissena Polymorpha Pallas in the Uchinsk reservoir, by A. A. Kachanova
Materials on the biology of mountain rivers of the Soviet Transcarpathian area, by V. S. Ivlev and V. M. Ivasik
Relationship between the fodder biomass and fish production in carp ponds, by V. P. Lyakhnovich
On some ways of affecting fresh water aquatic life, by A. V. Frantsev
On a hydrobiological method of decontaminating water polluted with organic materials and on biocenology in hydrobiology, by S. N. Skadovskii
Some considerations regarding the introduction of new species of fodder fauna in the Crimean waters, by N. A. Zhuravel'
Distribution of hydrophytes in the reservoirs of the Volga-Don Canal and their sanitation-epidemiological evaluation, by A. A. Potapov
On the chemical and sanitation-biological role of macrophytes in the Klyaz'minskoe reservoir, by N. M. Kabanov
Increasing the productivity of industrial mollusks (UNIO species) reproduction in connection with the maintenance of nacreous raw materials in our inland waters, pts. 1-2, by B. V. Vlastov.

NEW MEDICAL RESEARCH IN COMMUNIST CHINA.
13 Aug 63, 117p. JPRS: 20617.
Order from OTS $2.50 63-31516

Trans. Chung Hua Wai K'o Tsa Chih (Chinese People's Republic) 1963, v. 11, no. 1, p. 6-9, 35-40, 45-49, 78-79; no. 2, p. 87-89, 97, 102-116, 120-127, 132, 158, 166-168, inside back cover.

DESCRIPTORS: *Medical research, China, *Surgery, *Mechanical organs, *Heart, Artificial heart, *Plasma substitutes, *Anthrax, *Respirators, *Heparin, *Blood circulation, *Neoplasms, *Burns, *Bacteria, *Hemorrhage, Gastrointestinal system, *Shock (Pathology), Brain, *Blood transfusions, Contamination, Cancer, Anesthesia.

Contents:
Open-heart surgery for acyanotic heart disease with extracorporeal circulation, by Su Hung-hsi and others
Preliminary work using glucose or dextran solution blood substitutes to prime heart-lung machine in extracorporeal circulation, by Wang Yuan-ch'ang and others
Intestinal anthrax misdiagnosed as acute abdomen, by Liu Hung-chang and others
The use of heparinized blood substitutes in hypothermic partial perfusion, by Shang Te-yen and others
Dr. Chang Kuan-tseng reports on tumor research at 1962 conference, by Chang Hsin-te
Clinical value of burn wound infection bacteria in antibotic sensibility tests, by Hsu Yueh-ju and others
Sheathed cylinder thermovariator for hypothermic extra extracorporeal circulation with direct vision operations, by Jen Ch'ang-yu and others
Research on the characteristics of the Shanghai model no. 2, horizontal rotating-disk oxygenator, by Yeh Ch'un-hsiu and others
Preliminary report on clinical utilization of the Shanghai model no. oxygenator, by Yeh Ch'un-hsiu and others
Hunan Medical Health Association's Conference on Upper Gastrointestinal Hemorrhage, by Yang I-tzu
'Fundamentals' stressed by Shanghai branch of China medical society, by Chang Jo-mei
Surgical Theory, by T'ien T'ung-kuei and others (critique by Huang Chia-szu)
Editorial miscellany
Cerebral hemispherectomy for malignant brain tumor, by Tuan Kuo-sheng and others
Fatal transfusion reactions from contamination of stored blood, by Chin Shih-ao and Hsieh Yü-chin
Experimental studies of perfusion in upper half of body of animals under hypothermia anesthesia, utilizing heart-lung machine, by Su Hung-hsi and others
Subaxilla oblique incision in thoracotomy, by Chang Chih-pi and others.

Aleksandrov, V. Ya.
EXCITATION OF LIVING CELLS AS A DISTURBANCE OF THE STEADY STATE OF OPEN SYSTEMS.
16 Sep 63, 10p. 31 refs. JPRS: 21097.
Order from OTS $0.50 63-31769

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1963 [v. 28] no. 4, p. 621-629.

DESCRIPTORS: *Biology, *Cells (Biology), *Stimulation, Thermodynamics, Chemical equilibrium, *Biophysics.

Imshenetskii, A. A.
EXOBIOLOGY: NEW AREA FOR SCIENTIFIC RESEARCH (Ekzobiologiya: Novaya Oblast' Nauchnykh Issledovanii). Aug 63, 8p. NASA Technical Trans. F-166.
Order from OTS $0.50 63-11692

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 11, p. 58-63.
Another trans. is available from OTS $0.50 as 63-21289, JPRS-18044, 11 Mar 63 [13]p.

DESCRIPTORS: *Exobiology, *Space biology, *Microorganisms, Space environmental conditions.

A new area for scientific research, exobiology, is discussed. This new discipline is concerned with the explanation of the existence and expansion of life in the cosmos on the one hand, and on the other, with investigations of the effect of cosmic conditions on living organisms. (NASA abstract)

Kuznetsov, V. V.
VARIABILIDAD EN LA FECUNDIDAD Y VELOCIDAD DE CRECIMIENTO DE LOS INVERTEBRADOS MARINOS (Izmenchivost' Plodovitosti i Skorosti Rosta u Morskikh Bezpozvonochnykh) (Variability in Fertility and Growth Rate of Marine Invertebrates). 11p. 3 refs. CID: 62-255.
Order from OTS, ETC or CID $0.80 62-29255

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1951, v. 81, no. 2, p. 285-287.

DESCRIPTORS: *Aquatic animals, Fertility, Growth, Marine biology.

Mateev, V. I.
A NEW LOCATION FOR NYMPHAEA TETRAGONA GEORGI IN THE EUROPEAN PART OF THE USSR. Apr 63.
Order from Catherine A. O. Aalders, 83 Elm Ave., Kentville, N. S., Canada $1.00

Trans. of Botanicheskii Zhurnal (USSR) 1962, v. 47, no. 7, p. 1046-1047.

DESCRIPTORS: *Plants, (Botany), Taxonomy, Marine biology

Morozova-Vodyanitskaya, N. V.
CANTIDAD Y BIOMASA DEL FITOPLANCTON EN EL MAR NEGRO (Chislennost' i Biomassa Fitoplanktona v Chernom More) (Amount and Biomass of Black Sea Phytoplankton). 13p. 4 refs. CID: 62-256.
Order from OTS, ETC or CID $0.80 62-29256

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1950, v. 73, no. 4, p. 821-824.

DESCRIPTORS: *Black Sea, Aquatic animals, *Plants (Botany)

Tekhver, Yu. T.
HISTOLOGICAL TERMINOLOGY. [1963] [31]p. 30 refs. FASEB manuscript no. S 68-3.
Order from OTS or SLA $3.60 63-23053

Trans. of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1962, v. 43, no. 11, p. 3-11.

DESCRIPTORS: *Histology, Histological techniques, Identification, Standardization.

Terent'ev, P. V.
METHOD OF CORRELATION PLEIADS (Metod Korrelytsionnykh Pleyad) tr. by B. Ribush. [1962] [11]p. (foreign text included) 11 refs. [CSIRO] Trans. no. 5953.
Order from OTS or SLA $1.60 63-13236

Trans. of Leningrad U. Vestnik (USSR) 1959 [v. 14] no. 9, Seriya Biologii [no. 2] p. 137-141.

DESCRIPTORS: *Toxonomy, Correlation techniques, Graphic analysis, Biology, Statistical functions.

To designate a group of characters closely connected by high correlations the term "Correlation Pleiad" is proposed. As a means for the establishment of the pleiades a special graphical method, the construction of a "Correlation Ring", is suggested. The entire complex of pleiades in an organism is termed "Correlation Structure". A component of a pleiad maximally correlated with other components of the same pleiad is called "the indicator". Among the immense multitude of characters only indicators have taxonomic significance. (Author)

Zhadin, V. I.
THE HYDROBIOLOGICAL REGIME OF THE KUIBISHEV RESERVOIR: FORECAST AND REALITY.
2 Aug 63, 19p. 74 refs. JPRS: 20489.
Order from OTS $0.50 63-31447

Trans. of Zoologicheskii Zhurnal (USSR) 1963, v. 42, no. 5, p. 641-651.

DESCRIPTORS: *Marine biology, *Fishes, *Plankton, Plants (Botany), Dams, Reproduction, Reliability, *Lakes.

A review of the literature serves to compare the forecast of 1939 with the current regime. Suggestions are given concerning ways to improve the biological productivity of the Kuibishev Reservoir, and concerning ways to increase the reliability of hydrobiological forecasts in general.

Anatomy and Physiology

ACTA PHYSIOLOGICA POLONICA, 1962, VOL. 13, NO. 2, p. 195-290. 1962, 1v., 173 refs.
PL-480 HEW.
Order from OTS $1.00 62-11063/2

Trans. of Acta Physiologica Polonica, 1962, v. 13, no. 2.

DESCRIPTORS: *Physiology, *Poland, Amides, Ethyl radicals, *Lysergic acid derivatives, Reflexes, *Brain, Feeding, Reaction (Physiology), Rabbits, *Hypothalamus, *Stimulation, *Spinal cord, Fevers, *Epinephrine, *Levarterenol, *Erythrocytes, *Blood coagulation, Prothrombin, Rhythm (Biology), *Hemolysis, Lipids, *Age, *Hemoglobin, *Excretion, *Nitrogen, *Electromyography, Bioelectronics, Motor reactions, Scientific organizations.

Contents:
Studies on the central action of lysergic diethylamide, by E. Mietkiewski and E. Lichota
Feeding and flight reactions evoked in rabbits by hypothalamic stimulation, by W. Traczyk
Influence of elevated ambient temperature on the central nervous system: Changes in the noradrenaline and adrenaline concentrations in the brain stem of animals subjected to hyperthermia, by L. Strzoda
The role of erythrocytes in blood clotting: The effect of hemolysates on prothrombin utilization, by H. Gaertner
Preliminary thrombelastographic studies on the diurnal rhythm of blood coagulability in normal subjects, by J. Lisiewicz and Z. Schiffer
Quantitative determination of the degree of reversion of ultrasonic-induced hemolysis, by M. Kwasniewska-Blaszczyk and others
The lipids level in the red cells of C-57-black mice in relation to the spleen-liver system, by K. Schneiberg and M. Chorazy
Pharmacodynamic reactivity in relation to age: Studies on the temperature reduction induced by increasing doses of amidopyrine in young and adult rats, rept. II, by S. Kurzepa and A. Rutkowska
Paper electrophoresis and alkaline denaturation of hemoglobin of Holstein-Friesian calves and cows, by K. Wojcik and T. Kolczak
Excretion of certain mineral components through the kidneys of sheep in dependence on the form and amount of nitrogen in the feed, by L. Felinski and K. Szczepanski
Estimation of the territory of motor unit by Buchthal's method, by I. Hausman-Petrusewicz
Proceedings of branches of the Polish Physiological Society.

ACTA PHYSIOLOGICA POLONICA, 1962, VOL. 13, NO. 3, p. 291-399. 1962, 1v., 178 refs.
PL-480 HEW.
Order from OTS $1.00 62-11063/3

Trans. of Acta Physiologica Polonica, 1962, v. 13, no. 3.

DESCRIPTORS: *Physiology, *Poland, *Carbohydrates, Fats, *Glycoproteins, Diet, *Epinephrine, *Levarterenol, Lymph, Lipids, Oils, *Labeled substances, Absorption, *Gastrointestinal system, *Thyroid gland, *Pituitary hormones, Bioelectronics, Carbazides, *Serotonin, Brain, Anoxia, *Glutathione, *Ascorbic acid, *Acoustics, Biochemistry, *Electroencephalography, Microwaves, *Current amplifiers, Direct current, Laboratory animals, *Density, *Yeasts, *Folic acid, Chromatographic analysis, Streptococcus, *Amino acids, Tissues (Biology), *Astacidae, Crustacea, Scientific organizations.

Contents:
The influence of carbohydrates on fat absorption, I, by A. Michajlik
Secretion of glycoproteins with the intestinal juice of dogs fed diets varying in protein content, by S. Ziemlamski
The influence of epinephrine and norepinephrine on the lymph flow and the lipid content in the thoracic duct, by L. Markiewicz
Absorption of ^{131}I-labelled oil from the alimentary tract, by T. Horzela and others
Studies on the thyroid-gonadotropin antagonism, by R. Fitko
The influence of GABA and of thiosemicarbazide (TSC) on the electric brain activity in rabbits, by W. Romanowski and M. Monnier
The concentration of 5-hydroxytryptamine in the hindbrain of mice exposed to high temperatures, by R. Sochanski and D. Samek
The influence of asphyxia on glutathione and ascorbic acid levels in blood, muscles and liver of the guinea pig, by Z. Jendykiewicz and others
Investigations on the influence of acoustic and ultraacoustic field on biochemical processes, VIII, by Z. Elbowicz-Waniewska
Electroencephalographic studies in persons exposed to microwaves (preliminary report) by Z. Edelwejn and S. Haduch
A different direct current amplifier for electrobiological purposes, by R. Rogalewski
A device for determining the specific gravity of laboratory animals, by H. Ziombski
Chromatographic determination of folic acid in yeast preparations by a microbiological method with Streptococcus faecalis, by H. Gajcy
Free and bound amino acids in some organs and tissues of Potamobius astacus and Potamobius leptodactylus, by J. Iskierko
Proceedings of branches of the Polish Physiological Society.

Al'bertinskii, B. I., Petrov, I. R. and others.
AN EXPERIMENT IN THE ANALYSIS OF PROTECTIVE ORGANIC FUNCTIONS BASED ON THEORETICAL CONCEPTS OF REGULATION AND PHYSIOLOGY [AND] GENERAL ADAPTION REACTIONS IN AN ORGANISM EXPOSED TO HARMFUL STIMULI. 20 Feb 63 [45]p. FTD-TT-62-1548. AD-299 646
Order from OTS or SLA $4.60 63-19964

Unedited rough draft trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1962 [v. 17] no. 5, p. 72-93. Another trans. is available from OTS or SLA $10.10 in 62-33014, JPRS-15239, 12 Sep 62 [124]p.

DESCRIPTORS: *Adaptation (Physiology), *Stimulation, Physiology, Theory, Mathematical analysis, Ecology, Control systems.

Anichkov, M. N. and Lev, I. D.
ANALYSIS OF THE COLLATERALS THAT DEVELOP IN COARCTATION OF THE AORTA IN MAN. [1963] [48]p. 37 refs. FASEB S 450-2.
Order from OTS or SLA $4.60 63-23043

Trans. of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1962, v. 43, no. 10, p. 36-54.

DESCRIPTORS: *Blood circulation, *Aorta, Angiography, *Obstruction (Physiology), Surgery, Contrast media, Diagnostic agents, Anomalies.

Diagrams of collateral circulation of 60 patients were made by aortography using a contrast media injected into the aorta through the left carotid artery. The diagrams compiled from these aortographs were compared with what was found on 40 of the patients who had aortic surgery. A diagram was compiled of the collaterals that develop in coarctation of the aorta when the ductus arteriosus has been obliterated. The author believes that it is more complete than other known diagrams. Before surgery, a greater emphasis should be placed on the neurological study of patients with coarctation of the aorta to determine the effect of developing collaterals on nerve formations.

Demirchoglyan, G. G. and Mirzoyan, V. S.
THE RISE AND DEVELOPMENT OF ELECTRICAL REACTION IN THE RETINA DURING ONTOGENESIS. [1963] 6p. 4 refs.
Order from OTS or SLA $1.10 63-16460

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 90, no. 3, p. 371-374.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 61-15224, NIH-12-5-60, 5 Dec 60, 8p.

DESCRIPTORS: *Bioelectronics, *Retina, Eye, *Photoreceptors, Photosensitivity, Growth.

For abstract see Technical Translations 5: 457, 1961.

Frisch, K. v. and Kühn, A.
EXPERIMENTS ON THE TASTE SENSE OF PIGEONS, DUCKS AND CHICKENS: SUMMARY. [1963] 2p. (figs. omitted).
Order from SLA $1.10 63-14950

Partial trans. (summary only) of Zeitschrift für Vergleichende Physiologie (Germany) 1934, v. 20, p. 644-645.

DESCRIPTORS: *Taste, *Chickens, *Pigeons.

Gokhblit, I. I.
ELECTROENCEPHALOGRAPHIC CHARACTERISTICS DURING SLEEP AND WHILE AWAKE IN DOGS OF DIFFERENT AGES. [1963] 9p. 18 refs.
Order from OTS or SLA $1.10 63-16417

Trans. of #Byulleten' Eksperimental'noi Biologii i Meditsiny (USSR) 1958, v. 46 [no. 7, p. 30-34].

DESCRIPTORS: *Electroencephalography, *Sleep, Dogs, *Aging (Physiology), Bioelectronics.

Hürlimann, Rud.
THE ARTERIES OF THE HEAD IN THE CAT (Die Arteriellen Kopfgefässe der Katze). 1942 [41]p. 12 refs.
Order from SLA $4.60 63-16716

Partial trans. (excerpts) of Internat[ionale] Monatsschr[ift für] Anat[omie und] Physiol[ogie] (Germany) 1913, v. 29, p. 371-442.

DESCRIPTORS: *Arteries, Head, Cats, Anatomy.

Serova, L. V.
MODIFIED TISSULAR RESISTANCE ACCOMPANYING ACCLIMATIZATION OF ANIMALS TO MODERATE HYPOXIA UNDER NATURAL CONDITIONS. 21 Aug 63, 7p. 17 refs. JPRS: 20749; NASA N63-19956.
Order from OTS $0.50 63-31590

Trans. of #Fiziologicheskii Zhurnal SSSR, 1963, v. 49, no. 5, p. 639-642.

DESCRIPTORS: *Tissues (Biology), Animals, Adaptation (Physiology), Acclimitization, *Hypoxia.

Vasil'ev, P. V., Voskresenskii, A. D., and Gazenko, O. G.
EXPERIMENTAL RESEARCH IN SPACE PHYSIOLOGY (Eksperimental'nye Issledovaniya v Kosmicheskoi Fiziologii). Sep 63 [12]p. 12refs NASA Technical Trans. F-186.
Order from OTS $0.50 63-11706

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1963 [v. 28] no. 1, p. 15-23.
Another trans. is available from OTS $2.25 in 63-21723, JPRS-18985, 30 Apr 63, 96p.

DESCRIPTORS: Physiology, *Space medicine, *Space flight, Blood circulation, Acceleration tolerance.

The accumulation of physiological information on the effect of space flight on the human organism is making it necessary to examine our experimental research approaches. Two types of experiments are possible: (1) those designed to study a relatively small number of standard physiological characteristics by reproducing the effect of certain factors operative under actual space flight conditions; (2) those designed to elucidate the physiological mechanisms of action of these factors on the organism. The need for and significance of experimental investigation of the physiological mechanisms were illustrated with examples derived from the phenomenon of lateral acceleration. The results of inquiry into the hemodynamics of the pulmonary circulation, oxygen utilization by the cardiac muscle, oxygen tention in brain tissues, and central nervous system functions combined with a study of the literature made it possible to construct a diagram showing the principal physiological effects of lateral acceleration. It seems likely that the physiological changes can be described quantitatively and a model constructed which would reflect the major physiological changes in the organism under a variety of flight conditions.

Verzhbinskaya, N. A.
THE TISSUE MECHANISM OF ANIMAL ADAPTATION TO A DECREASED OXYGEN CONTENT IN THE ENVIRONMENT. [1963] 22p.
Order from OTS or SLA $2.60 63-16427

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 3, p. 430-441. Another trans. is available from OTS or SLA $1.60 as 62-33681, JPRS-16105, 8 Nov 62 [20]p.

DESCRIPTORS: *Tissues (Biology), *Adaptation (Physiology), Animals, *Anoxia, Air, Brain, Metabolism, Phosphorylation, Genetics, Oxidation, Hematoencephalic barrier, Permeability.

For abstract see Technical Translations 9: 118, 1963.

Biochemistry

ACTA BIOCHIMICA POLONICA, 1963, VOL. 10, NO. 3, P. 243-320. 1963, 1v. PL-480 HEW.
Order from OTS $1.25 63-11406-3

DESCRIPTORS: *Biochemistry, *Bacteria, Enzymes, Hydro-lyases, *Chondroitin, Cyto-chemistry, *Desoxyribonucleic acids, *Microsomes, *Proteins, *Hydrolysis, Esters, Phosphates, *Glutamine, *Nucleotides, *Wheat, *Excretion, Nitrogen, *Gastropoda, *Mice, Edema, Neoplasms, Carbohydrates, Neuraminic acids.

Contents:
δ -Aminolevulinic acid dehydrates from propionic acid bacteria, by W. Walerych
Presence of chondroitin sulphate in chondrocytes. II. Synthesis of chondroitin sulphate in the cells, by J. Kawiak
Fractionation of native and heat-denatured transforming DNA by chloroform treatment, by M. Piechowska and D. Shugar
Basic protein from mitochondria as inhibitor of the enzymes of the electron transport system, by W. Rzecycki
Acid and enzymic hydrolysis products of the cyclic phosphate esters of 1(β-D-glucopyranosyl)-uracil, by B. Zmudzka and others
Enzymic determination of glutamine with rat kidney preparation, by M. Zydowo and J. Purzycka
Incorpoaration of [2-14C]uracil into polynucleotides in homogenates of wheat seedlings, by J. Buchowicz
Seasonal changes in the excretion of nitrogen wastes in Helix pomatia, by M. M. Jezewska and others
Sialic acid and other protein-bound carbohydrates in Ehrlichmouse ascites tumour fluid, by W. Rzeczycki and others.

METHOD FOR EXTRACTION OF ADENOSINE TRIPHOSPHATE FROM MAMMALIAN BLOOD. 18 June 63, 6p. 2597/62 Japan.
Order from INT $18.00

Trans. of Japanese patent 2597/62 by Nippon Ketsueki Kenkyusho Inc., filed 6 July 55.

DESCRIPTORS: Mammals, *Blood, *Adenosine phosphates.

Courtois, Jean.
RESEARCH ON PHYTASE. I. COMPARATIVE EFFECT OF VARIOUS FERMENTATIVE PREPARATIONS ON INOSITOHEXAPHOSPHATE AND SODIUM GLYCEROPHOSPHATE. [1963] 7p. 18 refs.
Available from SLA on loan 63-16766

Trans. of Soc[iété] de Chim[ie] Biologique. Bull[etin] (France) 1945 [v. 27] p. 411-415.

DESCRIPTORS: *Inositols, *Sodium compounds, *Phosphates, *Glycerols, Hydrolysis, Enzymes, Fermentation, Phosphoric monoester hydrolases

The distribution of the phytase permits considering it as a specific enzyme distinct from the phosphomonoesterases; numerous preparations which are active on glycerophosphates are devoid jof effect or are very slightly effective on sodium inositohexaphosphate. These preparations on the contrary hydrolyze the inositophosphoric acids which form in the course of the decomposition of the inositohexaphosphate. This is how one explains that the hydrolysis of this ester by phytase is accelerated by the simultaneous addition of emulsin. (Author)

Eberwein, Horst, Gries, F. Arnold, and Decker, Karl.
DECOMPOSITION OF NICOTINE BY BACTERIA ENZYMES. II. ISOLATION AND CHARACTERIZATION OF A NICOTINE-DECOMPOSING SOIL BACTERIA. [1962] [19]p. 20 refs.
Order from SLA $1.60 63-16889

Trans. of Hoppe-Seyler's Zeitschrift für Physiologische Chemie (West Germany) 1961, v. 323, p. 236-248. Another trans. is available from K-H $21.25 as K-H-11687 [1962] 17p.

DESCRIPTORS: *Nicotine, Decomposition, Bacteria, Biosynthesis, Organic pigments, *Soils, Spectroscophy, *Enzymes.

A soil microorganism was isolated which, in the preence of trace elements, can utilize L-nicotine as its sole source of carbon and nitrogen for growth. It is Arthrobacter oxydans and produces a typical extracellular blue gigment when grown on L-nicotine. Conditions for growth and pigment production have been studied and the properties and purification procedure of the pigment are given. Preliminary information on the type of breakdown reactions and the various intermediates was provided by metabolic balance studies and spectrophotometric observations. (Author)

Evstigneev, V. B. and Gavrilova, V. A.
COMPARISON OF REDUCTION POTENTIALS OF CHLOROPHYLL AND BACTERIAL PIGMENTS UNDER ILLUMINATION. [1963] 5p. 19 refs.
Order from OTS or SLA $1.10 63-16719

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 141 [no. 2] p. 477-480.

DESCRIPTORS: *Plant pigments, Organic pigments, *Chlorophylls, Bacteria, *Reduction (Chemistry), Biosynthesis, Illumination, *Photosynthesis, Photochemistry, Plants (Botany).

A comparison was made of the reduction potentials of the reduced forms of pigments by using solutions containing both pigments to be compared, and photochemically reducing them by illumination at the absorption band of one of the pigments. Use was made of the following pairs of pigments dissolved in methanol or pyridine: chlorophyll a+ b and bacteriochlorophyll, chlorophyll a and bacteriochlorophyll, chlorophyll b and bacteriochlorophyll, bacteriochlorophyll and bacterioviridin, chlorophyll a and bacterioviridin.

Godnev, T. N., Kaler, V. L., and Rotfarb, R. M.
THE PRESENCE OF PHYTOL IN THE COMPOSITION OF PROTOCHLOROPHYLL OF ETIOLATED LEAVES. [1963] 4p. 11 refs.
Order from OTS or SLA $1.10 63-16720

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 140 [no. 6] p. 1445-1447.

DESCRIPTORS: *Phytol, *Chlorophylls, Photosynthesis, Plants (Botany), Biosynthesis, *Plant pigments, Photochemistry.

In the composition of etiolated leaves it is shown that the unesterified form of protochlorophyll (protochlorophyllide) markedly predominates. In the composition of the comparatively small quantity of esterified form phytol can be detected by the chromatographic method. The question of the presence in the molecule of other ester-combined alcohols needs further study. According to the results of the experiments, phytol can be synthesized in the dark. (Author)

Godnev, T. N. and Rotfarb, R. M.
POSSIBILITY OF A RECIPROCAL TRANSFORMATION OF CAROTENES AND CAROTENOLS. [1963] 3p. 10 refs.
Order from OTS or SLA $1.10 63-16721

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 147 [no. 3] p. 735-737.

DESCRIPTORS: *Plant pigments, Organic pigments, Carotene, Transformations, Carotenoids, *Photosynthesis Biosynthesis, *Tracer studies, Biochemistry, Plants (Botany).

The possibility of the following course of reactions is demonstrated: β-carotene $\underset{(C^{14})}{\rightleftharpoons}$ zeaxanthin; α-carotene $\rightleftharpoons$ lutein.

Gries, Arnold, Decker, Karl, and Brühmüller, Margaret.
DECOMPOSITION OF NICOTINE BY BACTERIA ENZYMES. V. DECOMPOSITION OF 1-6HYDROXY-NICOTINE TO [(γ-METHYLAMINOPROPYL)-(6-HYDROXYPYRIDYL-(3)] Ketone. [1963] 19p. 16 refs.
Order from SLA $1.60 63-16657

Trans. of Hoppe-Seyler's Z[eitschrift] für Physiol-[ogische] Chem[ie] (West Germany) 1961, v. 325, p. 229-241.

DESCRIPTORS: Decomposition, *Nicotine, Bacteria, *Enzymes, Hydroxides, Methyl radical, Amines, Pyridine derivatives, Ketones, Spectroscopy.

See also 63-16984

Kogan, L. M., Oranskaya, M. S. and others.
PREPARATION OF Δ^4-PREGNENE-17α, 20β, 21-TRIOL-3-ONE WITH THE AID OF ACTINOMYCETES. Pt. 2 [on] Microbiological Transformations of Steroids. [1963] 3p.
Order from ATS $4.50 ATS-99Q70R

Trans. of #Akad[emiya] Nauk SSSR. Otd[elenie] Khim[icheskikh] Nauk. Izv[estiya] 1962, no. 2, p. 302-303.

DESCRIPTORS: *Steroids, Transformations, *Actinomycetaceae.

Litvin, F. F., Rikhireva, G. T., and Krasnovskii, A. A.
LOW TEMPERATURE SPECTRA OF LEAVES AND THE STATE OF CHLOROPHYLL. [1963] [15]p. 50 refs.
Order from OTS or SLA $1.60 63-16727

Trans. of #Biofizika (USSR) 1962, v. 7 [no. 5] p. 578-591.

DESCRIPTORS: Low temperature research, *Plants (Botany), *Chlorophylls, *Spectrographic analysis, Biosynthesis, Photosynthesis, Cytochemistry, *Plant pigments.

Raikher, I. I., Mirskova, V. N. and others.
FRACTIONATION OF IMMUNE SERA BY ELECTROPHORESIS ON STARCH PLATES. [1963] [8]p. 5 refs. FASEB manuscript no. S 214-2.
Order from OTS or SLA $1.10 63-23044

Trans. of Laboratornoe Delo (USSR) 1962, v. 8, no. 7, p. 36-39.

DESCRIPTORS: Separation, *Proteins, *Immune serums, *Electrophoresis, Starches.

A method for determining simultaneously several protein fractions present in immune sera is described. A potato starch solution mixed with a buffer solution is distributed over the bottom of a glass dish which is partitioned lengthwise by a glass rod. Two strips of filter paper are placed on the edge of the dish to make contact with the electrodes. A second layer of buffer starch solution is then poured into the dish. After the plate has dried, along both sides of the glass rod 2 trenches are cut 6-7cm from the cathode. Exactly 0.5ml of serum is introduced into each trench. After absorption of the serum, the trenches are filled with buffered starch solution. Six plates are placed in the electrophoretic chamber, permitting simultaneous analysis of 12 samples. The starch plates are cut into pieces according to the size and position of each fraction. Each piece is centrifuged with 10ml of physiological saline solution. The supernatant fluids represented the isolated protein fractions. Electrophoregrams of protein fractions obtained from normal and immune horse sera, using this technique show that the protein fraction separation was quite precise.

Rozenfel'd, E. L. and Plyshevskaya, E. G.
ALGUNAS PARTICULARIDADES DEL DEXTRANO Y DE SU REACCION CON LOS ALBUMINOIDES DE LA SANGRE (O Nekotorykh Osobennostyakh Dekstrana i Ego Vzaimodeistviya s Belkami Krovi) (Some Particular Characteristics of Dextran and of its Reaction with Blood Albuminoids). 12p. 8 refs. CID: 62-254.
Order from OTS, ETC or CID $0.80 62-29254

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1954, v. 95, no. 2, p. 333-336.
Another trans. is available in English from SLA as RT-2558, 4p.

DESCRIPTORS: *Dextran, Elastin, *Blood.

Shlyk, A. A. and Nikolaeva, G. N.
METABOLIC HETEROGENEITY OF CHLOROPHYLL IN PLANTS. [1963] 5p. 19 refs.
Order from OTS or SLA $1.10 63-16729

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 143 [no. 2] p. 460-463.

DESCRIPTORS: *Plant pigments, Plants (Botany), *Genetics, *Chlorophylls, Biosynthesis, Photosynthesis, Organic pigments, Metabolism, *Biochemical genetics.

Sisakyan, N. M., Filippovich, I. I., and Svetailo, E. N.
PARTICIPATION OF CHLOROPLAST RIBOSOMES IN PROTEIN SYNTHESIS. [1963] [3]p. 16 refs.
Order from OTS or SLA $1.10 63-16732

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 147 [no. 2] p. 488-489.

DESCRIPTORS: *Chlorophylls, Plants (Botany), *Biosynthesis, Proteins, Synthesis, *Nucleoproteins, Nucleic acids, Desoxyribonucleic acid, Cytochemistry, *Plant pigments.

In chloroplasts enzymes were detected that activate amino acids (13-15) at the expense of ATP, formed in the same structures by means of photophosphorylation. Ribosomes are present in chloroplasts and natural DNA is found in them, which appears to be an important characteristic of chloroplasts, indicating the exclusive role of these structures in the biosynthetic functions of the autotrophic organism. This provides a basis for assuming that chloroplasts in respect to biochemical function appear to be a most complete system, guaranteeing along with other processes the synthesis of protein. (Author)

Tsujimoto, Akira.
STUDIES ON NICOTINE METABOLISM. II. NICOTINE OXIDATION BY ANIMAL TISSUES. [1961] 31p. 32 refs.
Order from SLA $3.60 63-16914

Trans. of [Nihon Yakurigaku Zasshi] (Japan) 1957, v. 53, no. 3, p. 553-565.
Other translations are available from OTS or SLA $4.60 as 59-14958, 24 Apr 59, 46p. and from K-H $33.00 as K-H 6975-a [1961] 26p.

DESCRIPTORS: *Nicotine, Metabolism, Oxidation, *Tissues (Biology), Cells (Biology), *Oxygen consumption.

That the increase in oxygen utilization noted when nicotine was added to a homogenate prepared from the liver of a rabbit was a result of oxidation of nicotine was ascertained by studying effect of nicotine and nicotinamide on the cell respiration. The oxidation of nicotine took place in the liver of rabbits, dogs, horses, pigs and cats as well as in the kidney of dogs, pigs and cats but not in the organs of cows, white mice and mice. The oxidation of nicotine took place in the Mitochondria. A colorimetric procedure based on the Ehrlich aldehyde reaction furnished data which indicated that nicotyrine was decomposed in the liver and kidney of a rabbit. The specificity of the cyanogen bromide method was studied. (Author)

Tumerman, L. A., Borisova, O. F., and Rubin, A. B.
THE CONNECTION BETWEEN PHOTOSYNTHETIC ACTIVITY AND CHLOROPHYLL FLUORESCENCE. [1963] [6]p. 12 refs.
Order from OTS or SLA $1.10 63-16733

Trans. of #Biofizika (USSR) 1961, v. 6 [no. 6] p. 645-649.

DESCRIPTORS: Photosynthesis, *Chlorophylls, *Fluorescence, *Biosynthesis, Spectrographic analysis, Cytochemistry, Plants (Botany), Plant pigments.

Topics include: effect of chemical photosynthesis inhibitors on the Hill reaction; changes of luminosity in the greening process of etiolated leaves; and, change of luminosity in the induction process of photosynthesis.

Tumerman, L. A. and Rubin, A. B.
TEMPERATURE EFFECT ON THE EFFICIENCY OF THE PRIMARY PROCESS OF LIGHT ENERGY CONVERSION IN PHOTOSYNTHESIS. [1963] 5p. 17 refs.
Order from OTS or SLA $1.10 63-16734

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145 [no. 1] p. 202-205.
Another trans. is available from OTS or SLA $1.60 in 63-13293, JPRS-16333, 26 Nov 62 [19]p.

DESCRIPTORS: *Plant pigments, Temperature, Plants (Botany), Energy, Light, *Photosynthesis, *Photochemistry, Organic pigments, *Biosynthesis, Biochemistry.

Vladimirov, G. E., Myul'berg, A. A., and Sytinskii, I. A.
SEPARATION OF THE SOLUBLE PROTEINS OF THE HUMAN BRAIN BY ELECTROPHORESIS ON PAPER AND IN AGAR BLOCKS. [1963] [8]p. (tables omitted) 11 refs.
Order from OTS or SLA $1.10 63-16379

Trans. of Voprosy Med[itsinskoi] Khimii (USSR) 1961, v. 7 [no. 1] p. 65-70.

DESCRIPTORS: Separation, *Proteins, *Brain, *Electrophoresis, Cytochemistry, Paper chromatography, Tissues (Biology), *Histological techniques.

Electrophoretic separation of soluble proteins in the grey and white matter of the brain made possible the identification of 8 fractions on paper and 11 fractions in agar blocks. The proportional distribution of protein fractions is the same for white and grey matter. The proportional distribution and number of separate fractions of soluble proteins is the same for the different lobes of the large hemispheres. (Author)

Wang Yu and Tai, Hsing-I.
STUDIES ON AMINO SUGARS. I. DERIVATIVES OF N-(2',4'-DINITROPHENYL)-D-GLUCOSAMINE AND THEIR ROTATORY POWERS. 20 Mar 63 [13]p. 26 refs. NIH no. 3-42-63.
Order from OTS or SLA $1.60 63-19248

Trans. of [Hua Hsüeh Hsüeh Pao] (Chinese People's Republic) 1958, v. 24, no. 5, p. 368-376.

DESCRIPTORS: *Carbohydrates, *Glucose, *Amines, *Phenols, Nitro radicals, *Glucosides, Synthesis (Chemistry), Molecular rotation, Stereochemistry.

By attaching a DNP group on the N-atom of 2-amino-2-deoxy-D-glucose, a noted change in optical rotation is produced. A new tetra-acetyl-N-DNP derivative was obtained from 2-amino-2-dexoxy-D-glucose. This new compound proved to be of α-glucoside type. It is more dextro-rotatory than its β-anomer. Relationship on optical rotatory power of this pair of anomers differs from that between α- and β-anomers of ordinary sugars. It was observed that such an anomaly on optical rotation also exists in N-DNP-2-amino-2-deoxy-methyl-D-glucosides and their acetyl derivatives. The authors conclude that the reason that Hudson's isorotation rule becomes partially inapplicable to the above-mentioned N-DNP-D-gulco-samines and their derivatives may possibly be due to the influence of N-DNP group of the $C_{(2)}$-atom to the molecular rotation property of the vicinal $C_{(1)}$-atom.

Zbarskii, I. B., Ermolaeva, L. P., and Dmitrieva, N. P.
RESIDUAL PROTEIN IN THE NUCLEI OF NORMAL AND TUMUROUS CELLS. [1963] [8]p. 11 refs. FASEB manuscript no. S 41-3.
Order from OTS or SLA $1.10 63-23056

Trans. of Voprosy Meditsinskoi Khimii (USSR) 1962, v. 8, no. 2, p. 218-221.

DESCRIPTORS: Proteins, Cytochemistry, *Nucleoproteins, *Cells (Biology), *Cancer, *Nuclei (Biology), Electron microscopy.

Electronic microscopic investigations were made of the residual proteins derived from nuclei of cells of a normal liver, a strain of carcinosarcoma cells, and a strain of sarcoma cells. These studies indicate that the residual protein has a nuclear origin in both tumorous and normal cells and is probably a nuclear membrane protein. It was found to be acollagenous. A component was present in the residual protein from the tumor cells which is different than in the normal cells both in structure and composition.

Botany

Abutalybov, M. G.
THE DISTRIBUTION OF CALCIUM IN PLANTS (Raspredelenie Kal'tsiya u Rasteniyakh) tr. by W. Hall. [1963] [25]p. (foreign text incluede) 10 refs. [CSIRO Trans. no.] 5973.
Order from OTS or SLA $2.60 63-19600

Trans. of Fiziologiya Rastenii (USSR) 1956, v. 3, no. 4, p. 306-312.

DESCRIPTORS: *Plants (Botany), *Calcium compounds, Chemical analysis, Solubility, Adsorption, Cells (Biology), Distribution.

The gradient of concentration of water-soluble and adsorbed compound forms of calcium is basipetal: the largest quantity of these compound forms of calcium is accumulated in the younger upper parts of plants. The gradient of concentration of acid-soluble compound forms of calcium is acropetal: the greatest quantity of these compound forms of calcium is encountered in the lower parts of plants. The increase in content of water-soluble and adsorbed compound forms of calcium is related to the high content of this element in the protoplasm. The high content of acid-soluble compounds of calcium in older lower parts of plants may be explained by the decline in activity of the cells of these parts and, due to this, the decrease in calcium content in the protoplasm, as a result of its having shifted into the cell sap and been transformed into calcium oxalate. (Author)

Kapustinskii, A. F.
IMMUNITY OF PIGMENTED PLANTS AND ANTIBIOTICS (Immunitet Pigmentirovannykh Rastenii i Antibiotiki) tr. by B. Ribush. [1963] [22]p. (foreign text included) 30 refs. [CSIRO] Trans. no. 5988.
Order from OTS or SLA $2.60 63-19601

Trans. of Uspekhi Sovremennoi Biologii (USSR) 1950, v. 29, no. 3, p. 370-378.

DESCRIPTORS: Plants (Botany), *Flavones, Plant pigments, *Antibiotics, *Immunity, Fungi, Diseases.

The approach to investigation of antibiotics proposed does not aspire to be a universal method of their detection but concerns only those of them whose active principle is based on the presence of compounds of quinoide structure and has as its initial compound a pigmented group of the anthocyan (flavone) type. Directional search for antibiotics eliminates blind empirism in the study of this problem; it accelerates checking for antibiotic effectiveness of the most promising representatives of individual taxonomic groups of plants, those containing the most active modifications of anthocyan pigments, by taking into account their immunity to fungal diseases. (Author)

Rodionova, N. A.
THE CHANGE IN THE PROTEIN COMPLEX OF CHICK-PEA SEEDS DURING GERMINATION (Izmenenie Belkovogo Kompleksa Semyan Nuta v Protsesse Prorastaniya). May 63 [33]p. 14 refs. RTS-2181.
Order from OTS or SLA $3.60 63-23261

Trans. of Glavnyi Botanicheskii Sad [Pushkinskoe]. Trudy (USSR) 1960, v. 7, p. 32-54.

DESCRIPTORS: *Seeds, Growth, *Proteins, *Nitrogen, Chemical analysis, Hydrolysis, Amino acids, Albumins, Globulins, Proteins (Simple), Paper chromatography, *Fabacea.

Medical Specialties and Equipment

HEALTH MASK. 20 June 63, 10p. 1748/59 Japan.
Order from INT $19.50

Trans. of Japanese patent 1748/59 by Kiyashi Matsumoto, filed 6 Feb 56.

DESCRIPTORS: Health physics, Surgical instruments, Respiration, *Breathing apparatus.

Leoncini, Giuseppe.
ELECTRICALLY DRIVEN ROTARY TOOTH BRUSH, tr. by F. H. B. 13 Dec 62, 6p. (figs. omitted).
Order from OTS or SLA $1.10 63-13752

Trans. of Italian patent 565,200, cl. A 46b, appl. 15 Jan 57, granted 12 July 57.

DESCRIPTORS: *Teeth, Brushes, Electrical equipment, *Dentistry.

The invention involves an electrically driven rotary tooth brush, consisting of a main body which contains the electric drive motor. The body is closed in front by means of a convex cover; it is adapted to contain the reduction gears, carries a socket driven at a speed suitably reduced by such gears, and is provided with a central conical opening, and at the base thereof toward the inside, with a connection hole suitable for rapid fastening, by means of the conical section, of the shank of a rotary brush permitting rational cleaning of the teeth. Said main body is closed at its rear by means of another convex, detachable cover for possible inspection of the parts of the electric motor. The motion of the brush, instead of being rotary and continuous, is a reciprocating motion, which result is accomplished by means of a suitable modification of the inside reduction gear device. The electric contact starts operating only at the moment when the brush is pressed against the teeth of the user. (Extract)

Microbiology

SELECTED ARTICLES FROM "ARHIV BIOLOSKIH NAUKA", tr. by Bozidar Filipovic. 1963 [35p] 12refs PL-480 Agr
Order from OTS $0.50 61-11252/1-5

Trans. of Arhiv Bioloskih Nauka (Yugoslavia) 1949, v. 1, no. 3, p. 253-257; 1950, v. 2, no. 2, p. 109-113; no. 3/4, p. 211-221; 1951, v. 3, no. 1/2, p. 27-32; no. 3/4, p. 117-120.

DESCRIPTORS: Medicine, Pathology, *Trichomonas, Temperature, *Coccidia, Growth, Antibiotics, *Sulfamides, *Protozoa.

Contents:
A contribution to the study of the biology of Trichomonadidae. II. The lowest and highest ranges of temperature at which certain species of Trichomonas multiply, by Z. Petrovic
Effect of temperature and moisture on the exogenous development of Eimeria perforans and Eimeria stiediae, by S. Sibalic
A contribution to the study of the biology of Eimeria mitis Tyzzer 1929, by S. Sibalic
A contribution to the study of the biology of Trichomonadidae. III. The effect of antibiotics, sulphonamide and other preparations on the multiplication of Trichomonas in vitro, by Z. Petrovic
A contribution to the study of the biology of Trichomonadidae. IV. The effect of antibiotics and sulphonamide preparations on the multiplication and longevity of T. vaginalis Donne 1836, T. elongata Steinberg 1862, and T. gallinae, Rivolta 1879 in cultures infected by intestinal bacterial flora, by Z. Petrovic.

Beier, T. V.
ON THE DISTRIBUTION OF SUCCINIC DEHYDROGENASE IN EIMERIA INTESTINALIS' LIFE CYCLE (O Raspredelenii Suktsindegidrasy v Zhiznennom Tsikle Eimeria Intestinalis). June 63 [13]p. 13 refs. RTS-2196.
Order from OTS or SLA $1.60 63-23259

Trans. of Tsitologiya (USSR) 1962, v. 4, no. 2, p. 232-237.

DESCRIPTORS: *Parasites, *Oxidoreductases, Intestines, Growth, Cells (Biology), *Coccidia.

Changes in succinic dehydrogenase activity throughout the life cycle of E. intestinalis were studied. During the intra-cellular states of development (schizonts, macrogametes, young oocysts) the enzyme is totally or almost totally lacking, while the extra-cellular stages (merozoites, and oocysts leaving the host) show a high degree of succinic dehydrogenase activity. The determining factor in the change of this activity is the location of the particular developmental stage, which also marks its physiological role. (Author)

Braun, Wiegand.
THE POSSIBILITIES OF BIOLOGICAL INFLUENCE-ATION OF TECHNOLOGICAL PROPERTIES OF CLAYS AND LOAMS. [1963] 10p.
Order from SLA $1.10 63-16145

Trans. of paper presented at the International Ceramical Congress (no. 5) Vienna, 1956.

DESCRIPTORS: *Clay, Brick, *Microorganisms, Soils, Mechanical properties, Ceramic materials.

Kheisin, E. M. and Raikov, I. B.
PROTOZOAN CYTOLOGY AT THE INTERNATIONAL CONFERENCE ON PROTOZOOLOGY (NO. 1) PRAGUE, AUG 61 (Tsitologiya Prosteishikh na I Mezhdunarodnoi Konferentsii po Protozoologii v Prage). May 63 [15]p. 1 ref. RTS-2236.
Order from OTS or SLA $1.60 63-23257

Trans. of Tsitologiya (USSR) 1962, v. 4, no. 1, p. 93-98.

DESCRIPTORS: *Conferences, *Abstracts, *Protozoa, Parasites, *Cells (Biology), Nuclei (Biology), Chromosomes, Electron microscopy.

Schar, B. and Kahnt, F. W.
DIFFERENCES IN THE STABILITY OF LIPOPOLY-SACCHARIDES FROM PROTEUS VULGARIS OX 19 IN SERUM AND PLASMA (Unterschiede der Stabilität von Lipopolysacchariden aus Proteus Vulgaris OX 19 in Serum und Plasma). [1963] 5p. 10 refs.
Order from SLA $1.10 63-16603

Trans. of Experientia (Switzerland) 1958, v. 14, Feb, p. 70-71.
Another trans. is available from SLA as 58-832.

DESCRIPTORS: Stability, Lipids, *Blood serum, *Saccharides, *Enterobacteriaceae, *Blood plasma, Biochemistry.

Although bacterial polysaccharides are broken down in the serum of various animals with loss of action, the same polysaccharides are fairly stable in the plasma of the same animal. The significance of this finding in the biological behavior of the polysaccharides is discussed. (Author)

Neurology and Psychiatry

WORKS OF THE INSTITUTE OF HIGHER NERVOUS ACTIVITY, PHYSIOLOGICAL SERIES, 1961, VOL. 6, tr. by M. Roublev. 1963, 314p. PL-480 HEW.
Order from OTS $3.25 63-11167

Trans. of Akademiya Nauk SSSR. Institut Vysshei Nervnoi Deyatel'nosti. Trudy. Seriya Fiziologicheskaya, 1961, v. 6, 342p.

DESCRIPTORS: *Nervous system, Neurology, *Physiology, Stimulation, *Photorecptors, *Motor reactions, *Conditioned reflex, Psychoses, Reflexes, *Cerebral cortex, *Analyzers (Psychology), Excision, *Neuromuscular transmission, *Thresholds (Physiology), Gastrointestinal system, Secretion, *Sensory mechanisms, Inhibition, *Posture, Food, Bioelectronics, *Thalamus, *Brain, Electric currents, Sound, *Electroencephalography, *Rhythm (Biology), *Diagnostic agents, Epinephrine, *Adjustment (Psychology), *Psycotropic agents, CNS stimulants, Laboratory animals, *Drugs, Dosage, *Amphetamines.

Contents:
Effect of physical intensity of a visual stimulus on the parameters of the conditioned motor responses in man, by I. A. Shevelev
Effect of physical intensity and signal meaning of a conditioned visual stimulus on measurements of motor responses in man, by I. A. Shevelev
Physiological characterization of conditioned reactions elaborated with verbal reinforcement, by N. Yu. Alekseenko
Interaction of simultaneous conditioned reactions elaborated with different reinforcements in healthy persons and in schizophrenic patients, by M. M. Trunova
Effect of intensity of conditioned and unconditioned stimuli on the magnitude of a conditioned-conditioned defense reflex, by I. B. Kozlovskaya
The formation of specialized motor reflexes to distant stimuli, by E. I. Popova and others
Effect of extirpation of the cortical part of the motor analysor on conditioned motor defense reflexes, by M. I. Samoilov
Study of degree of concentration of the excitatory process in the arc of a stable conditioned motor defense reflex in dogs, by R. L. Vinnik
Tonic conditioned alimentary motor reflexes in dogs after unilateral extirpation of the motor analysor center, by M. E. Ioffe
Contribution to the analysis of duration of a motor defense reflex, by N. G. Ivanova
Distinctive functional traits of so-called voluntary movements of dogs, by E. I. Popova
Effect of the change of amount of alimentary reinforcement on the magnitude of a conditioned secretory-motor reflex, by I. F. Aslanova
Changes in the motor and secretory components of a conditioned alimentary motor reflex during differentiation and extinction, by O. N. Vasil'eva
Some cortical interaction mechanisms of different types of conditioned reflexes in dogs, by U. G. Gasanov
Interaction of conditioned alimentary and defense reflexes. Report 3, by L. A. Preobrazhenskaya
Interaction of two excitation centers, by T. N. Ryantseva
Interaction of extinction and differentiation inhibition at sudden intensity changes of the inhibitory stimulus, by R. A. Cherkashina
A contribution to the problem of the interaction of excitation and inhibition. Report 2, by I. M. Volkova
Formation of a conditioned postural reflex in dogs during elaboration of a food-obtaining reflex to a moving stimulus, by I. M. Sheiman
Chain multieffector alimentary reflexes of monkeys to a complex stimulus, by G. I. Shirkova and G. L. Verevkina
Comparative physiological data on differentiation between two positive stimuli, by Yu. A. Kholodov and others

Effect of electric stimulation of the reticular formation on conditioned reflex activity, by L. G. Voronin and others
Influence of the hippocampus on conditioned reflexes in rabbits, by N. A. Tushmalova
Importance of various layers of the cerebral cortex in the production of a dominant center by application of a direct current, by M. A. Ryabinina
Conditioned reflex reconstruction of the human EEG rhythm during combinations of sound with a rhythmic light, by G. N. Boldyreva
Excitability and reactivity of the rabbit cerebral cortex during elaboration of a conditioned defense reflex, by L. V. Tishaninova
Local bioelectric phenomena in the cerebral cortex during conditioned reflex activity, by G. I. Shul'gina
Spatial changes of bioelectric cortical and subcortical activity in rabbits. Report 1, by I. N. Knipst
"Transfers", a particular form of spatial distribution of cortical bioelectric activity, by K. K. Monakhov
The adrenalin test in electroencephalographic studies in rabbits, by A. M. Ivanitskii
Effect of meratran on higher nervous activity in dogs. Report 1, by A. Ya. Mekhedova
Effect of various phenamine doses on higher nervous activity in animals, and determination of optimal doses in various types of nervous systems, by A. M. Nuzhina
Effect of optimal doses of phenamine on extinction, inhibition, by A. M. Nuzhina
Some individual traits of local unconditioned defense reflex action in white rats, by L. V. Komarov
Conditioned reflex activity of Wistar-strain rats, by V. E. Miklashevskii

Cesio, Fidias R.
PSYCHOANALYTIC INTERPRETATION OF THE SMOKING HABIT. [1962] 10p. 7 refs.
Order from SLA $1.10 63-16615

Trans. of Revista de Psicoanalisis (Argentina) 1957, v. 14, no. 4, p. 368-374.
Another trans. is available from K-H $12.50 as K-H-8619-c.

DESCRIPTORS: *Cigarettes, *Tobacco, Smokes, Behavior, Abnormal psychology, Anxiety.

Sadovskaya, V. T.
THE DEVELOPMENT, COURSE AND RESULTS OF EXPERIMENTAL TETANUS INTOXICATION IN CONDITIONS OF CHANGED FUNCTIONAL STATE OF THE CENTRAL NERVOUS SYSTEM (Razvitie, Techenie i Iskhod Eksperimental'noi Stolbnyachnoi Intoksikatsii v Usloviyakh Izmenennogo Funktsional'nogo Sostoyaniya Tsentral'noi Nervnoi Sistemy) tr. by Wanda M. Feeley. Dec 61, 8p. (refs. omitted).
PSC no. 60-2584.
Order from OTS or SLA $1.10 63-19708

Trans. of #Byulleten' Eksperimental'noi [Biologii i] Meditsiny (USSR) 1960, v. 49 [no. 3] p. 41-46.

DESCRIPTORS: *Convulsive disorders, *Tetanus toxoid, Physiology, *Nervous system, Brain, Spinal cord, Drugs, Inhibition, Stimulation, Cerebral cortex, Biological products.

Pathology

ARCHIVES OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, 1963, VOL. 11, 1/2, P. 1-296 (Archivum Immunologiae et Therapie Experimentalis). 1963, 1v.
PL-480 HEW.
Order from OTS $3.00 63-11410/1-2

English ed. of [Archiwum Immunologii i Terapii Doswiadczalnej] (Poland) 1963, v. 11, no. 1/2.

DESCRIPTORS: *Immunology, Therapy, *Enzymes, *Smallpox virus, Infections, *Leukocytes, *Mycobacterium tuberculosis, Antigen-antibody reactions, *Eye, Inflammation, *Shigella *Tumors, Phosphoric monoester hydrolases, Organic pigments, *Hypnotics and sedatives, *Reticuloendothelial system, Body fluids, *Metabolism, Lactones, *Antibiotics, *Taxoplasma, *Amino acids, Tannic acids, *Communicable diseases, *Bone, Agglutinins, *Blood chemistry, Zymosan, X-rays, Corticosteroid agents, *Histamine, *Surgery, Urinary system, *Bacterial extracts, *Acetylcholine, *Lead poisoning, *Clostridium tetani.

Contents:

The role of γ-glutamyl transpeptidase in the internal diseases clinic, by M. Orlowski
Leukergy in experimental infection of rabbits with vaccinia viruses, by M. Lobodzinska
Experimental sensitization Uvetis, by J. Pacynska
Studies on the mechanism of variation of S. sonnei Bacilli, by M. Mulczyk and others
Histochemical demonstration of glucose-6-phosphatase in transplantable chrysoidin-induced hepatoma, by J. Malolepszy and B. Peryt
The influence of new sedative drugs on phagocytosis, by W. Brzuchowska and K. Hryncewicz
Quantitative determination of α-allyl-γ valerolactone in physiological body fluids, by B. Bobranski and L. Syper
Diacycline treatment of acute experimental toxoplasmosis in mice, by J. Galuszka and J. Szaflarski
The reaction of tannin with polyamino acids, by A. Morawiecki
Evaluation of the antiglobulin reaction for detecting incomplete cryptoagglutinins in infectious diseases, with special reference to its specificity, by M. Dolezal
Studies on the regeneration of ossal tissue, I-II, by T. Cieszynski
A comparative study of the glycogen content of leukocytes in human beings and in laboratory animals, by W. Zawisza-Zenkteler
The influence of zymosan, cortisone and X-rays on the course of experimental toxoplasmosis in white rats, by M. Metzger and others
The influence of X-rays on experimental histamine shock (preliminary report) by S. Kosmider and E. Rogala
A contribution to the analysis of duration of postoperative treatment after selected urological diseases, by J. Lorenz and W. Marszalek
Immunological characterization of antigenic extracts obtained from bacteria with different methods, I-II, by M. Truszczynski
Acetylcholine in the suprarenal glands of animals with experimental tetanus, by W. Fal and L. Czerchawski
Plasma sodium, calcium and potassium levels in rabbits during experimental acute lead poisoning, by S. Kosmider and others

Characterization of two atypical acid-fast strains isolated from clinical material, by T. Szulga and others.

MEDICAL JOURNAL, 1962, VOL. 84, NO. 5. 1963 59p 120refs PL-480 HEW
Order from OTS $0.50 62-11763/5

Trans. of Lijecnicki Vjesnik (Yugoslavia) 1962, v. 84, no. 5, p. 429-480.

DESCRIPTORS: Yugoslavia, *Medicine, *Pathology, Medical examination, *Salmonella infections, *Thrombosis, *Embolism, *Eye, *Wounds and injuries, *Obstruction (Physiology), Intestines, *Coma (Physiology), Etiology, *Nephritis, Toxicity, *Acetophenones, *Drugs, Hormones, *Parathyroid glands.

Contents:
Systematic health examinations in general practice, by M. Saric and Z. Kulcar
Clinical characteristics of salmonellosis java in adults, by Z. Kosutic and others
The management of thromboembolic disease, by Lj. Popovic
Eye injuries in children, by N. Ljustina-Ivancic and V. Ban
Intestinal obstruction due to undigested fruit, by A. Longhino and P. Rafaeli
Differential diagnosis of comatose states, by T. Beritic
Clinico-Pathological conferences
Etiological bed-side diagnosis in a comatose patient, by A. Markicevic
Nephrotoxicity of phenacetin, by T. Beritic
Old and new facts about the parathyroid hormone, by D. Mardesic.

MEDICAL JOURNAL, 1962, VOL. 84, NO. 6. 1963 49p 106refs PL-480 HEW
Order from OTS $0.50 62-11763/6

Trans. of Lijecnicki Vjesnik (Yugoslavia) 1962, v. 84, no. 6, p. 545-590.

DESCRIPTORS: Yugoslavia, *Medicine, *Pathology, Vaccines, *Poliomyelitis, *Salmonella infections, Children, *Respiratory system, Sea water, Diseases, *Rickets, *Hypertension, *Poisoning, *Cyanides, *Chelate compounds, Cobalt, *Antibiotics, Sensitivity, Drugs

Contents:
Immunization with live polio vaccine, by I. Vodopija
Salmonellosis java in children, by E. Najman and others
Thalassotherapy for diseases of respiratory organs, by I. Padovan and S. Jurdana
Crura vara hereditaria, by M. Juretic and others
Hypertensive crises and their treatment, by Z. Asperger
Hypertensive crises as an immediate threat to the life of hypertonics, by Z. Radosevic
Anticyanide properties of cobalt chelates, by A. Markicevic
The antibiogram, by Z. Zager

POLISH MEDICAL JOURNAL, 1963, VOL. 2, NO. 1, P. 1-120. 1963, 1v. 224refs PL-480 HEW
Order from OTS $1.25 63-11409/1

DESCRIPTORS: Poland, *Medicine, Pathology, *Neoplasms, *Blood serum, *Infants, *Electrocardiography, Diseases, *Pancreas, *Arthritis, *Sex glands, Blood chemistry, *Lipoproteins, *Transaminases, *Heparin, Lipids, Semiconductors, *Microtomes, *Antigens and antibodies, Tumors, Cytochemistry, *Nuclei (Biology), *Cancer, Stomach, Liver, Medical equipment, *Oxygen consumption, *Siliciosis, Respiration, *Prosthetics, Arteries, *Globulins, *Cardiac muscle, Hypoxia, *Cerebrospinal fluid, *Bioelectronics, *Nephritis, *Muscular necrosis.

Contents:
The activity of blood serum gamma-glutamyl transpeptidase in neoplastic diseases, by S. Kotlarek-Haus
Activity of glutamine-oxal-acetic transaminase and glutamine-pyruvic transaminase in healthy newborns, by T. Brukszo and A. Rogoyski
Electrocardiogram in acute diseases of the pancreas, by S. Bober and others
The effect of treatment on serum sialic (N-acetyineuraminic) acid level in patients with rheumatoid arthritis, by J. Pagowska-Wawrzynska and J. Dzulynska
Blood lipids and lipoproteins in Klinefelter's syndrome, by M. Sznajderman and Z. Janczewski
Postheparin lipolytic activity of serum in various internal diseases except atherosclerosis, by S. Lukasik
A semiconductor microtome freezing table, by R. Chwalko and W. Brzosko
Studies on antigen structure of Guerin rat epithelioma, by A. Ryzewska
Identification of intranuclear inclusions in chrysoidine hepatoma by means of histochemical methods, by J. Malolepszy
Nitrogen balance in patients with stomach cancer, by A. Marczynska
Simple method of measuring lung compliance, by A. Koziorowski and H. Zaremba
Pulmonary nitrogen time (nitrogen clearance) and ventilatory insufficiency, by T. Garbinski and others
The appraisal of respiratory function in silicosis, by W. Zahorski and others
Synthetic arterial substitutes in the treatment of occlusion of the major arteries, by J. Dryjski
Serum haptoglobins in heart muscle hypoxia and necrosis (preliminary report) by J. Snigurowicz
Experimental studies on chloride anion concentration in the cerebrospinal fluid after death, by A. Jaklinski
Bioelectric activity of skeletal moscles in renal failure with hyperpotassemia, by I. Hausmanowa-Petrusewicz and others.

PROBLEMS OF THE CLINIC AND TREATMENT OF MALIGNANT NEOPLASMAS, 1962, NO. 8: [SELECTED] TRANSLATIONS. 17 July 63, 20p. 23 refs. JPRS: 20205.
Order from OTS $0.75 63-31305

Trans. of [Akademiya Nauk] La[tviiskoi] SSR, Riga. [Institut Eksperimental'noi Meditsiny. Trudy] 1962, no. 8, p. 125-130, 209-216, 283-284.

DESCRIPTORS: *Cancer, Therapy, *Neoplasms, *Anesthesia, Surgery, *Lungs, Tumors, Thorax.

Contents:
Our experience with anesthesia in operations for cancer of the lungs, by G. N. Andreev
The clinical picture and results of surgical treatment of mediastinal tumors, by N. A. Balynya
Table of contents.

WORKS OF THE INSTITUTE OF HIGHER NERVOUS ACTIVITY, PATHOPHYSIOLOGICAL SERIES, 1961, VOL. 8, STUDIES OF HIGHER NERVOUS ACTIVITY IN CHILDREN IN HEALTH AND DISEASE, tr. by Y. S. Halperin. 1963, 132p 108refs PL-480 HEW
Order from OTS $1.25 63-11169

Trans. of Akademiya Nauk SSSR. Institut Vysshei Nervnoi Deyatel'nosti. Trudy: Seriya Patofiziologicheskaya, 1961, v. 8.

DESCRIPTORS: *Nervous system, Pathology, *Physiology, *Psychology, *Neuromuscular transmission, *Children, *Motor reactions, *Pediatrics, *Reactions (Psychology), *Sensory mechanisms, Stimulation, *Conditioned reflex, Exercise, *Antigen-antibody reactions, Students, *Infections, *Cerebral cortex, Brain, *Diphtheria, *Mental deficiency, *Psycomotor tests, Reasoning, Psychoses, *Neuroses, Epilepsy, Convulsive disorders, Drugs, *Anticonvulsants, *Glutamic acid.

Contents:
Certain conditions for the manifestation of dynamic transmission in children, by B. M. Kurbatov
Further study of the interaction between CNS signalling systems in schoolchildren, by B. M. Kurbatov
Characteristics of age-dependent inhibition of verbal reactions in children, by M. V. Sokolova
Further study on the interaction between signalling systems in children with different types of higher nervous activity, by Z. N. Briks
Some characteristics of formation of conditioned reactions to complex direct and verbal stimuli in schoolchildren at the end of the school day, by L. S. Bogachenko
Influence of physical exertion in a boarding school on higher nervous activity of the students, by K. S. Politova
Investigation of some immune reactions in children with different types of higher nervous activity, by Z. N. Briks
Experimental studies on higher parts of the brain in a child suffering from angina and during convalescence, as applied to health-promoting functions of the nervous system, by E. Kh. Ganyushina
Changes in higher nervous activity of children suffering from diphtheria, during the various stages of the infectious process, by E. Kh. Ganyushina
The problem of analytical-synthetic activity in oligophrenic children, by N. G. Gartsshtein and T. B. Delova
Dissociation of activity of the signalling systems in psychopathic children, by T. B. Delova
Some characteristics of neurodynamics in compulsion neurosis in children, by L. I. Golovan'
Disorders of higher nervous activity in children suffering from epilepsy, by L. I. Belyakova
Studies on higher nervous activity in children at early periods of epilepsy, by V. M. Bashina
Neurodynamics in children suffering from petit mal epileptic seizures and therapeutic effects of epimide, by T. P. Fuflygina
Effect of various therapeutic doses of glutamic acid on higher nervous activity in children suffering from neuropsychiatric disorders, by A. M. Sumskaya

Agnese, Giuseppe.
THE RELATION BETWEEN CONSUMPTION OF TOBACCO AND MORTALITY FROM MALIGNANT TUMORS OF THE LUNG, IN ITALY. [1963] 23p. 17 refs.
Order from SLA $2.60 63-16939

Trans. of Igiene Mod[erna] (Italy) 1958, v. 51, no. 11/12, p. 801-820.

DESCRIPTORS: Italy, *Lungs, Neoplasma, *Cancer, *Tobacco, Consumption.

The relationship between tobacco smoking and mortality for lung cancer in Italy was studied on a prospective and retrospective basis in relation to the different age groups in the general population. A considerable and clearly significant correlation between mortality for lung cancer (years 1953-54) in the various regions and tobacco smoking in the 25 preceding years was observed, being $r = 0.779$ and $P < 0.01$. Cigarettes were found to be responsible for the correlation with lung cancer both following the prospective analysis of the present mortality (1952-54) and the retrospective analysis, which pointed out a superimposable increase of cigarette smoking and mortality for cancer of the respiratory system in Italy. (Author)

Akopyan, M. A., Sivoshinskii, D. S. and Vorob'ev, N. I.
A NEW METHOD OF AUTOMATICALLY RECORDING UNIFORMITY OF ALVEOLAR VENTILATION (SPIRORADIOGRAPHY) (Novyi Sposob Avtimaticheskoi Registratsii Ravnomernosti Al'veolyarnoi Ventilyatsii (Spiroradiographiya)). [1962] [14]p. 5 refs. FASEB manuscript no. S. 314-2.
Order from OTS or SLA $1.60 63-23025

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 9, p. 102-[106].
Another trans. is available from OTS or SLA $1.60 in 63-13325, JPRS-16406, 29 Nov 62 [17]p.

DESCRIPTORS: Lungs, *Repirometers, *Recording devices, *Tracer studies, Respiration.

An apparatus which measures and records the volume of residual air and the uniformity of the alveolar ventilation is described. The unit which employs a closed system using radioactive Xenon permits continuous automatic recordings of the concentration of radioactive Xenon in the patient and the spirograph together. The resulting graph obtained is called a spiroradiograph. It can be used as a diagnostic tool. The graphic recording of the dynamics of the drop in the concentration of radioactive Xenon in the patient-spirograph system makes it possible to observe the initial moment of the start of uniform mixing, the length of the mixing time, the rate of this process and individual fluctuations in its course.

Bel'man, Kh. L.
ON THE ETIOLOGY OF AMYOTROPHIC LATERAL SCLEROSIS, tr. by P. V. DePorte, 18 June 63, 10p. 18 refs. NIH no. 6-27-63.
Order from OTS or SLA $1.10 63-23130

Trans. of Voprosy Psikhiatrii i Nevropatologii (USSR) 1961, v. 7, p. 86-94.

DESCRIPTORS: Etiology, *Amyotrophic lateral sclerosis, *Encephalitis viruses, Viruses, Neurology, *Ticks, *Disease vectors

Amyotrophic lateral sclerosis is encountered as a syndrome of the chronic progressive form of tick-borne encephalitis with or without an acute initial illness. The literature data and our own observations support the infectious viral nature of ALS, at least in a certain percentage of the cases. (Author)

Bernard, Jean, Tubiana, M. and others.
STUDY OF THE ASSOCIATION: POLYCYTHEMIA-CANCER, tr. by Raphaella Kingsbury and Thomas Knatt Jan 62. [16]p. 19 refs.
Order from OTS or SLA $1.60 UCRL Trans-779

Trans. of Nouvelle Revue Française d'Hématologie, 1961, v. 1, p. 473-478.

DESCRIPTORS: *Polycythemia, *Blood disorders, *Cancer, Etiology, Cancer research.

A statistical study was performed on 227 cases of polycythemia treated with radioactive phosphorus. The patients were followed over an average period of 6 1/2 years. Seventeen cases of associated cancer have been noted, or 7.4 percent of the cases. Of 38 deaths observed in the series, 5 were due to some form of cancer, that is, 13 percent of the cases. The statistical study shows that, in this series, the polycythemia does not involve a significant increase of cancer risk in general. On the other hand, the analysis of the types of cancer reveals an altogether abnormal and significant increase in cancer of the kidney among these subjects. The frequency of cancer of the thyroid is suspected perhaps but not affirmed. There does not exist a particular relationship among the other types of cancer. (Author)

Braun, Sándor.
EXPERIMENTAL DATA ON THE PATHOGENESIS OF TISSUE GROWTH (Kisérletes Adalékok a Szövetnövekedés Pathogenesisisehez) tr. by P. Hajdu. 23 Jan 59, 19p. (13 figs. omitted).
Order from OTS or SLA $1.60 59-12872

Trans. of Kiserletes Orvostudomany (Hungary) 1952, v. 4, no. 1, p. 6-17.

DESCRIPTORS: *Tissues (Biology), *Carcinogenic agents, Cancer, Cells (Biology), *Microsomes, *Benzopyrenes.

Bürgel, E. and Themel, K. G.
PATHOLOGY AND CLINICAL SYMPTOMS OF LUNG-SCAR CARCINOMA. [1962] 43p. 71 refs.
Order from SLA $4.60 63-16933

Trans. of Oncologia (Switzerland) 1958, v. 11, no. 3/4, p. 254-287.
Another trans. is available from K-H $53.75 as K-H 10332-a [1962] 43p.

DESCRIPTORS: *Cancer, *Lungs, Pathology, Diagnosis.

A survey was made of the "Lungscar-carcinoma," by means of 37 cases, who were observed clinically and radiologically, and proven by autopsy or biopsy. After a detailed description of the pathology, the history, the clinical picture, and especially the radiological findings, which are of particular importance in the diagnosis, are described, brought in order, and interpreted. After a short discussion of the differential diagnosis, a diagnostic scheme is given, as a suggestion for the clinician. Two early diagnosed and operated cases are described, one of whom was clinically still free of recurrence 3 1/2 years after operation. (Author)

Cabrera Millet, R.
ETIOPATHOGENIC ROLE OF TOBACCO SMOKE. [1963] 11p. 67 refs.
Order from SLA $1.60 63-16578

Trans. of Revista Clinica Española, 1957 [v. 67] no. 4, p. 255-257.
Another trans. is available from K-H $13.75 as K-H-8500-b [1962] 11p.

DESCRIPTORS: *Cancer, Etiology, Diseases, *Tobacco, Smokes, *Cigarettes, *Lungs, Respiratory system.

It is doubtful whether a cause-effect relationship exists between smoking and lung cancer. However, inhalation of cigarette smoke impairs numerous cardiovascular and respiratory diseases and shortens the life-span of the individual. (Author)

Cellerino, A. and Billia, P.
PULMONARY VOLUMES IN HEALTHY AND BRONCHOPATHIC SMOKERS BEFORE AND AFTER THE USE OF A CHEMICAL FILTER FOR CIGARETTES. [1963] [19]p. 18 refs.
Order from SLA $1.60 63-16571

Trans. of reprint of Minerva Medica (Italy) 1962, v. 53, no. 39, p. 1516-1521.
Another trans. is available from K-H $22.50 as K-H-12125 [1962] 18p.

DESCRIPTORS: *Lungs, *Oxygen consumption, *Smokes, Tobacco, *Cigarettes, *Filters, Respiratory system.

The authors studied the functional behavior of a group of healthy smokers and of a second group of bronchopneumopathic smokers, and found in both groups statis-

tically significant symptoms of functional respiratory damage of the type with increased resistance of the respiratory passages. In the same subjects the authors studied the modifications effected in some tests by the systematic use of a new type of cigarette filter, characterized by chemical treatment of the filter medium with alkaline substances of the ethenolamine group. The results observed are encouraging, particularly because of the evidence of the benefit observed in the group of broncho-pneumopathic smokers. (Author)

Courtial, J. and Fernadez Colmerro, J. M.
INDICATIONS FOR AND RESULTS OF ROENTGEN AND CURIETHERAPY IN CANCER OF THE ANAL CANAL. [1963] 18p.
Order from SLA $1.60 63-16625

Trans. of Arch[ives] d[es] Maladies d[e] l'Appareil Digestif [et des Maladies de la Nutrition] (France) 1960, v. 49, p. 43-54.

DESCRIPTORS: *Radiotherapy, X-rays, Radium, *Cancer, *Gastrointestinal system.

Dikun, P. P. and Chuskin, S. G.
FLUORESCENT SPECTRUM INVESTIGATION OF THE PRODUCTS OF SMOKING TOBACCO GOODS. [1963] 9p. 18 refs.
Order from OTS or SLA $1.10 63-18462

Trans. of #Vop[rosy] Onkol[ogii] (USSR) 1959, v. 5 [no. 7] p. 34-38.

DESCRIPTORS: *Fluorescence, *Tobacco, *Smokes, Cigarettes, Carcinogenic agents, Benzopyrenes, Spectroscopy.

Products of dry distillation of tobacco contain the carcinogenic compound 3,4-benzpyrene. 3,4-benzpyrene is found in the products of smoking, and is obtained from Belomorkanal, Avrora, and Makhorka cigarettes using an apparatus which imitates smoking. (Author)

Dmochowski, J. and Danysz, A.
THE EFFECTS OF TOBACCO SMOKE ON PHYSICAL EFFICIENCY. [1963] 2p. [refs. omitted].
Order from SLA $1.10 63-16959

Trans. of Acta Physiologica Polonica, 1957, v. 8, no. 3/3a, p. 312-313.

DESCRIPTORS: Cigarettes, *Smokes, *Tobacco, *Physical fitness, Toxicity.

Eschle, K.
FILTERING AND PORE RATIOS IN CIGARETTE FILTERS. [1962] 9p. 12 refs.
Order from SLA $1.10 63-16892

Trans. of Mitteilungen aus dem Gebiete der Lebensmitteluntersuchung[en] und Hygiene (Switzerland) 1960, v. 51, p. 69-74.
Another trans. is available from K-H $11.25 as K-H-10402-c, 1962, 9p.

DESCRIPTORS: *Tobacco, *Cigarettes, Particulate filters, Porosity, Filters.

Of all properties, both of cigarette filter material as well as of the tobacco smoke, the essential of which are referred to in this study, the ratios of open space appear to be the most probable factors to give information on the nature of filtering. These ratios can best be understood with such concepts as the structure volume, pore volume, interstitial volume and bulk volume. These are magnitudes which can be easily calculated with the aid of the measurable real and apparent density as well as of the easily accessible bulk weight. Thus a structure volume of 22% with reference to the bulk volume was calculated for typical representatives of fiber filters and of 29% for those of layer filters. On the basis of a purely kinetic conceptualization of filtering, it can be recognized that neither the chemism nor the nicrostructure of the filter material is of significance for the degree of deposition, but that the filter effectiveness is in the first place influenced decisively by the surface and the structure volume. An improvement of the degree of total deposition most likely could be obtained with an increase in the length of the filters - which is the same as an increase in the surface - and a selectivity of the filter effects appears to be excluded on the basis of the theories which have been advanced so far. (Author)

Fen'veshi, Tomash.
THE EFFECT OF TOBACCO SMOKING ON THE CARDIOVASCULAR SYSTEM. [1962] 18p. 53 refs.
Order from OTS or SLA $1.60 63-16896

Trans. of Klin[icheskaya] Med[itsina] (USSR) 1959, v. 37 [no. 7] p. 7-11.
Another trans is available from K-H $22.50 as K-H 9874-b, 1962, 18p.

DESCRIPTORS: *Tobacco, *Smokes, *Cigarettes, Cardiovascular system.

Glezer, G. A. and Spivak, G. L.
A COMPARATIVE STUDY OF HEMODYNAMIC DISTURBANCES IN THE GENERAL CIRCULATION AND THE RENAL CIRCULATION IN HYPERTENSIVE DISEASE. [1963] [14]p. 17 refs. FASEB manuscript no. S 403-2.
Order from OTS or SLA $1.60 63-23032

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 10, p. 26-31.

DESCRIPTORS: *Blood circulation, *Kidneys, *Hypertension, Arteries, Veins, Blood pressure, Atherosclerosis.

The renal hemodynamics were compared with the generalized, systemic blood pressure to evaluate the role of renal ischemia in hypertension. The hemodynamics of the general circulation were studied in 25 normal subjects and 82 hypertensive patients. The renal hemodynamics were studied in 8 normal persons and in 68 hypertensive patients. The cardiac output (minute volume) and the renal blood flow were measured simultaneously. To measure the minute volume an earlobe oximeter was used to record dye distribution. Renal

blood flow was measured by diodrast. No striking differences were found between the cardiac output and renal blood flow of patients in the early stages of hypertension as compared to normal subjects. In later stages of disease a striking decrease in cardiac out and renal blood flow were found. The renal blood flow was reduced to a much greater extent than in the general circulation. This study demonstrated that in hypertension parallel changes occur in the hemodynamics of the blood vessels of the kidneys and the general circulation in proportion to the degree of progression of the disease. The renal disturbances are greater than in the general circulation. This difference increases with severity of the disease. From these findings, it is assumed that these changes are due to the underlying causes of hypertension.

Grapman, E. M.
THE DIFFERENTIAL X RAY DIAGNOSIS OF CHRONIC OCCLUSION OF THE ARTERIES OF THE LOWER LIMBS. [1963] [13]p. 15 refs. FASEB manuscript no. S 430-2.
Order from OTS or SLA $1.60 63-23041

Trans. of Klinicheskaya Meditsina (USSR) 1962, v. 40, no. 10, p. 82-86.

DESCRIPTORS: X-rays, Diagnosis, *Angiography, *Arteries, *Arteriolonecrosis, Legs, Contrast media, Atherosclerosis, Obstruction (Physiology).

Over a period of 4 years 358 patients with clinically established occlusion of the arteries of the lower limbs were studied. A total of 1,050 arteriograms were done. By analysis of this data, the author succeeded in making differential diagnoses between endarteritis obliterans and obliterative atherosclerosis, and was able to note the extent and severity of the pathological process. These studies indicate that: (1) Arteriography is an important diagnostic method of investigation in diseases of the arteries of the lower limbs. It confirms a suggested clinical diagnosis and determines accurately the localization and extent of the pathological process. (2) The arteriograms can be used to judge the severity of an obliterative disease. (3) The skilled interpretation of arteriograms provides information regarding the state of the collateral circulation, which is essential when choosing methods of treatment.

Greben'kov, S. G.
THE EFFECT OF VITAMIN C DEFICIENCY ON THE URINARY EXCRETION OF CREATINE AND CREATININE. [1963] [8]p. FASEB manuscript no. S 364-2.
Order from OTS or SLA $1.60 63-23028

Trans. of Voprosy Pitaniya (USSR) 1962, v. 21, no. 3, p. 80-81.

DESCRIPTORS: *Ascorbic acid, *Creatine, *Creatinine, Urine, Excretion, Diagnosis, *Deficiency diseases.

The value of urinary excretion of creatine and creatinine as an indicator of vitamin C deficiency was evaluated. The 24 hour urinary excretion of 35 farm workers was analyzed. The study was done in the spring and summer. The workers ranged in age from 17 to 40. They had no clinical manifestation of vitamin C deficiency. The plasma vitamin C level and the 24 urinary creatine and creatinine excretion were measured. The blood plasma vitamin C level was lower than normal. Urinary excretion of vitamin C averaged 0.3 mg per hour, as compared to normal excretion of 0.8 - 1.0 mg per hour. The creatinine excretion was found to be within normal limits. No creatine was found in the urine. Supplementary administration of crystalline ascorbic acid to five of the subjects caused no change in urinary creatine and creatinine. As these subjects all had vitamin C deficiencies as shown by blood plasma studies, the author concludes that the urinary excretion of creatine and creatinine is not of value in diagnosing early vitamin C deficiency.

Gritsyute, L. A. and Mironova, A. I.
ON THE CANCEROGENIC ACTIVITY OF TOBACCO TARS. [1962] [18]p. 21 refs.
Order from OTS or SLA $1.60 63-16659

Trans. of #Vopr[osy] Onkol[ogii] (USSR) 1960, v. 6, no. 8, p. 25-33.
Another trans. is available from K-H $18.75 as K-H 10880-a [1962].

DESCRIPTORS: *Tobacco, Etiology, *Cancer, *Tar, *Carcinogenic agents, Cigarettes.

In experiments on testing the cancerogenic action of tobacco combustion products, tumors of the skin appeared at the place of the smearing in 8 mice out of 238; sarcoma of the subcutaneous tissue at the place of introduction of the tar in 1 rat out of 82; and multiple papillomas in 2 rabbits out of 8. The small cancerogenic effect which we obtained - the small number of tumors and alterations, are believed to be pretumoral and correspond to the given physical analysis of the tobacco tars, according to which it is evident that the amount of 3,4-benzopyrene in them is very small. The not very pronounced cancerogenic effect obtained in the experiments indicates that the tobacco tar does not contain a significant amount of other cancerogenic substances besides 3,4-benzopyrene. The totality of the data obtained by investigation of the products of smoking tobacco by physical and biological methods is evidence that these products do have a potential cancerogenic activity. (Author)

Gubergrits, A. Ya., Leshchinskii, L. A. and Ryabov, V. I.
A TEST STUDY OF ABSORPTION IN CERTAIN PARTS OF THE ALIMENTARY TRACT UNDER CLINICAL CONDITIONS. [1963] 23p. 12 refs. FASEB manuscript no. S 299-2.
Order from OTS or SLA $2.60 63-23016

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 8, p. 29-37.

DESCRIPTORS: *Medical examination, Diseases, *Gastrointestinal system, Liver, *Absorption (Biological), Biliary system.

The procedures currently in use for determining the absorption rate from the digestive tract were repeated and evaluated. These procedures were all based on the injection of an indicator into the digestive

tract and the determination of the time of the indicator's presence in a particular part of the body. Ether, potassium iodide, and radioactive iodine were used as indicators. The absorption time for ether was determined by the odor of ether on the patient, for the potassium iodide by its presence in saliva by a starch test, and for radioactive iodine by the presence of radioactive iodide in the thyroid gland. Potassium iodide appeared in the saliva in healthy persons in 3 to 5 minutes. The time was longer in diseases of the liver, bile ducts and intestinal tract. The radioactive iodine test gave similiar results. The ether test was the least reliable of the three. The potassium iodide-starch test proved the most reliable. It was found to be a reliable indicator of pathology of the liver, bile ducts, and the digestive tract.

Gurinov, B. P.
THE EFFECT OF THE METHOD OF COMBUSTION AND THE TYPE OF FUEL ON THE CONTENT OF 3,4-BENZPYRENE IN SMOKE GASES. [1960] 6p. 5 refs.
Order from OTS or SLA $1.10 63-18472

Trans. of Gig[iena] i Sanit[ariya] (USSR) 1958, v. 23, no. 12, p. 6-9.
Another trans. is available from K-H $8.75 as K-H 10402-d, Oct 60, 7p.

DESCRIPTORS: Combustion, *Fuels, *Smokes, *Benzopyrenes, Hydrocarbons, Waste gases.

Haintz, Odön.
PULMONARY TUMORS. [1962] 15p. 4 refs.
Order from SLA $1.60 63-16105

Trans. of Orvosi Hetilap (Hungary) 1934, v. 78, no. 30, p. 684-687.
Another trans. is available from K-H $18.75 as K-H 9641 [1962] 15p.

DESCRIPTORS: *Lungs, Tumors, *Cancer, Sex, Aging (Physiology).

Lung carcinomas occur recently much more frequently. In case histories we do not find any data which would explain the cause of the disease. It is three times as frequent in males as in females and the average age, in which it occurs, is 56. Pulmonary tumors have very varying symptoms, but none of them is constant. If we shall take all of them into consideration, we shall diagnose the illness relatively earlier and thus its treatment will also be more successful. The average life span of patients who died from pulmonary tumor, if it is reckoned from the first appearance of the symptoms, is 7 1/2 months. (Author)

Hirvonen, Leo, Paavilainen, T. O. A., and Peltonen, Tuomas.
[CIGARETTE] SMOKING AND PHYSICAL PERFORMANCE. [1962] 14p. 23 refs.
Order from SLA $1.60 63-16106

Trans. of Sotilaslaak[etieteellinen] Aikak[auslehti] (Finland) 1961, v. 36, p. 5-15.
Another trans. is available from K-H $17.50 as K-H 11340 [1962] 14p.

DESCRIPTORS: *Cigarettes, *Tobacco, *Physical fitness, Smokes.

Each of 40 conscripts were examined for physical performance after cigarette smoking and also without previous smoking, using a bicycle ergometer for measuring the amount of work equalling, when done without interruption, a heart of 170/min., viz. the so-called working capacity. Smoking was found to reduce the working capacity definitely in two-thirds of the subjects. The average working capacity obtained for the whole group after smoking was 9% lower than in the control tests. In part of the cases the control test for working capacity was carried out when a sufficiently long interval had passed after smoking; in part of them the test was made before tobacco smoking. (Author)

Igarashi, Akira and others.
AVAILABILITY OF A SIMPLE URINARY TESTING PAPER "COMBISTIX" [1963] 7p.
Order from SLA $1.10 63-16489

Trans. of [Rinsho Fujinka Sanka] (Japan) 1962, v. 16, Aug, p. 615-617.

DESCRIPTORS: *Urine, *Diagnostic agents, Paper, Proteins, Glucose, *Colorimetry.

The qualitative determination of urinary protein and urinary sugar by Combistix test paper is possible, and the results are in agreement with the results of previous methods. The quantitative determination of urinary proteins and urinary sugar by this method gives results almost equal to the quantitative results given by the previous methods. Both quantitative and qualitative determinations can be carried out in a short time, by dipping only one test paper into the urine. The quantitative and qualitative determination of protein and sugar and the checking of pH are possible. (Author)

Kakhana, M. S. and Kakhana, T. B.
ON THE PROBLEM OF THE MECHANISM OF GALACTOGENIC ACTIVITY OF AMINAZINE IN MENTAL PATIENTS (K Voprosu o Mekhanizme Galaktogennogo Deistviya Aminazina u Psikhicheski Bol'nykh) tr. by Wanda M. Feeley. May 61, 8p. (refs. omitted). PSC no. 60-1746.
Order from OTS or SLA $1.10 63-19715

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60 [no. 8] p. 1019-1023.

DESCRIPTORS: *Chlorpromazine, Toxicity, Drugs, Stimulation, *Mammary glands, Secretion, Milk, *Psychoses, Psychotropic agents.

Kaufmann, H., Bensimon, L., and Bergogne, Cl.
THE CIGARETTE TEST PERFORMED ON PATIENTS WITH CARDIOVASCULAR DISEASES. [1963] 5p. 1 ref.
Order from SLA $1.10 63-16693

Trans. of Académie Nationale de Médicine, Paris. Bulletin (France) 1959 [ser. 3] v. 143, no. 32, p. 731-734.

DESCRIPTORS: Tests, *Cigarettes, Smokes, *Tobacco, *Cardiovascular system, Diseases, Diagnosis, Sensitivity.

A clinical test was performed which enables one to observe the immediate effect of a cigarette on the cardio-arterial state. The application of this test to patients with cardiovascular disease permitted the observation that these patients have a sensitivity to tobacco which differs from that of normal persons.

Lisova, A. I.
FREQUENCY OF BLOODSUCKING OF SANDFLIES IN NATURAL AND EXPERIMENTAL CONDITIONS (Chastota Krovosaniya Moskitov v Usloviyakh Prirody i Eksperimenta) tr. by Z. D. Knowles. 27 May 63, 11p. 6 refs. NIH no. 5-40-63.
Order from OTS or SLA $1.60 63-23131

Trans. of Meditsinskaya Parazitologiya i Parazitarnye Bolezni (USSR) 1960, v. 29, no. 5, p. 553-558.

DESCRIPTORS: *Diptera, Insects, *Insect bites, Disease vectors.

Matveev, A. A.
THE ADRENAL FUNCTION IN INFECTIOUS HEPATITIS. [1963] [11]p. 14 refs. FASEB manuscript no. S 99-3.
Order from OTS or SLA $1.60 63-23059

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 11, p. 63-68.

DESCRIPTORS: *Adrenal cortex, *Hepatitis, *Corticosteroids, Urinalysis, Liver, Secretions, Adrenal glands.

The glucocorticoid function of the adrenal cortex in infectious hepatitis was studied. The free and total 17 hydroxycorticosteroids in 24 hour urine samples of 25 young or middle aged patients with clinically obvious, epidemic hepatitis were determined. The same analysis was done on urine of 11 apparently healthy persons. The level of the 24-hr excretion of free 17-hydroxycorticosteroids in the urine of patients with infectious hepatitis at the beginning of the icteric period was not, as a rule, different from the level of their excretion in healthy subjects. The ratio between the free fraction and the total corticosteroids in the patients was several times higher. The 24-hr excretion of total corticosteroids at the same period in the patients was significantly lowered. The observed decrease in the excretion of total corticosteroids in the urine is considered to be the result of a decrease in their formation or secretion by the adrenals. The change in the ratio between the free and total 17-hydroxycorticosteroid fractions is dependent on the disturbance of the conjugating function of the liver.

Mazurenko, N. P.
ROLE OF VIRUSES IN THE ETIOLOGY OF LEUCOSES: CHAPS. 6-7. 15 July 63, 35p. JPRS: 20169.
Order from OTS $1.00 63-31284

Trans. of mono. Rol' Virosov v Etiologii Leikozov, Kiev, 1962, p. 148-190.

DESCRIPTORS: Viruses, Etiology, Blood disorders, Chickens, Leukocytes, *Leukemia, *Smallpox, *Vaccines, Man, *Tumor viruses, *Antigen-antibody reactions.

Contents:
Mechanism of smallpox vaccine-induced leucoses in mice
Viral etiology of human leucoses.

Michel-Bloch, H. and Salomon, A.
EARLY SIGNS OF ANKYLOSING SPONDYLARTHRITIS (Les Signs de Debut de la Spondylarthrite Ankylosante). [1962] 9p.
Order from SLA $1.10 62-20473

Trans. of mono. Entretiens de Bichat. Médecine-Specialities, n.p., 1960, p. 479-486.

DESCRIPTORS: *Arthritis, Spinal column, *Joints (Physiology), Diagnosis.

Nishikaze, O. and Staudinger, H. J.
THIN LAYER-CHROMATOGRAPHIC ISOLATION OF ALDOSTERONE FROM URINE (Dünnschichtchromatographische Isolierung von Aldosteron aus Harn). [Apr 63] 4p. 10 refs.
Order from SLA $1.10 63-18009

Trans. of Klin[ische] W[ochenschrift] (West Germany) 1962, v. 40, 1 Oct, p. 1014.

DESCRIPTORS: *Aldosterone, Corticosteriod agents, Separation, *Urine, Hormones, *Chromatographic analysis, Diagnosis.

Parnes, V. A.
ON THE IMMUNOLOGIC STUDY OF PATHOLOGICALLY CHANGED TISSUES (Ob Immunologicheskom Izuchenii Patologicheski Izmenennykh Tkanei). 11 Mar 63 [12]p. 30 refs. NIH no. 3-15-63.
Order from OTS or SLA $1.60 63-19109

Trans. of #Voprosy Onkologii (USSR) [1957] v. 3, no. 2, p. 179-188.

DESCRIPTORS: Immunity, *Immunology, Pathology, *Tissues (Biology), *Antigen-antibody reactions, Proteins, Metabolism, Neoplasms, *Carcinogenic agents.

Guinea pigs were used in these experiments to determine whether or not amyloid antigens produced by different chronic infections are identical or are linked to a specific infectious agent. In a cross reaction of anaphylaxis and desensitization, antigenic complexes of amyloid spleens of tubercular and nontubercular origin were compared. Guinea pigs were sensitized by antigens from amyloid spleens caused by different infectious agents. They were completely desensitized to antigens of normal spleens. They were then injected with antigens of amyloid spleen caused by different chronic infectious diseases. The antigens of amyloid spleens of nontubercular patients completely removed the sensitization to antigens of amyloid spleens of tubercular patients. Guinea pigs sensitized by a prep-

aration of the spleen of a patient with bronchiectasis and full desensitized to spleens of normal, and tubercular persons did not react to injections of antigens of amyloid spleens of nontubercular individuals. These experiments show that antigens of different origin are identical cal. This fortifies the concept that it is not the infection that produces the chronic process, but the pathological changes of protein metabolism determine the specific character of the amyloid antigen. From these findings and results of prior studies, the author presents the hypothesis that antigenic components formed in connection with a disturbance of protein synthesis can enter into the composition of specific antigenic complexes of neoplastic tissues.

Retnev, V. M.
THE SIGNIFICANCE OF DUSTS IN THE ETIOLOGY OF THE SO-CALLED GENERAL (NONSPECIFIC) MORBIDITY AMONG WORKERS. [1963] 6p. 18 refs.
Order from OTS or SLA $1.10 63-16985

Trans. of Gigiena i Sanitariya (USSR) 1962 [v. 27] no. 9, p. 82-85.

DESCRIPTORS: *Industrial medicine, Etiology, Diseases, *Atmospheric pollution, Vital statistics.

It is concluded that variously considered, dust is capable of exerting the so-called nonspecific effect on the organism; it may lower the resistance of the organism to various infections and also play an important part in the etiology of nonspecific general illness of persons who work under dusty conditions. The mechanism of the nonspecific action of dust is apparently very complex and requires further investigation, particularly in regard to the action of the dust factor on the healthy organism. (Author)

Rubenchik, B. L., Fishchenko, A. Ya. and others.
BIOCHEMICAL AND MORPHOLOGICAL CHANGES IN THE LIVER OF RATS IN CARCINOGENESIS INDUCED BY N-DIMETHYLAMINOAZOBENOL AND AMARANT INJECTIONS [AND] PROSTHESIS OF DEFECTS OF THE ANTERIOR ABDOMINAL WALL WITH A CAPRON NET AFTER REMOVAL OF A NEOPLASM. 6 Aug 63, 14p. 18 refs. JPRS: 20516.
Order from OTS $0.75 63-31465

Trans. of #Voprosy Onkologii (USSR) 1963, v. 9, no. 4, p. 68-75, 93-95.

DESCRIPTORS: Morphology, *Liver, Cancer, *Carcinogenic agents, Azo dyes, *Prostheses, *Abdomen, Plastics, Polyamide plastics, Surgery, Tumors, *Nylon.

The injection of cancerogenic substance was followed by a decrease of catalase and succindehydrase activity. The activity of catepsines with pH optimum 3.5 and 5 increased during the first weeks after the beginning of n.dimethylaminoasobenzol injections. Then the activity of the former decreased, while that of the latter increased. During cancerogenesis the riboflavin contents in the liver first decreased, returning to its normal level later on. A number of experiments showed a direct dependency between the degree of morphological changes in the liver and the activity of catalase, succindehydrase and catepsins. A continuous ingestion of amarant failed to provoke biochemical and morphological changes in the rat liver and did not result in the development of tumors in the other organ of the rats. (Rubenchik and Bikorez) Three observations on successful substitution of large defects of the tissues of the anterior abdominal wall by a capron net after tumour excision (2 fibromas and 1 fibrosarcoma) are given. (Fishchenko and Ogorodnik)

Scanu, A.
EPIDEMIOLOGICAL OBSERVATIONS CONCERNING A VIRAL ENCEPHALOPATHY OF THE CAT (Osservazioni di Ordine Epidemiologico Relative ad una Encefalopatia Virale del Gatto). [1963] 4p. 1 ref.
Order from SLA $1.10 63-16495

Trans. of Soc[ietà] Ital[iana di] Biol[ogia] Sper[imentale]. Boll[ettino] 1951, v. 27, p. 1236-1238.
Another trans. is available from SLA as 58-556.

DESCRIPTORS: *Epidemiology, *Encephalitis, Encephalitis viruses, Cats, Communicable diseases.

Ser[i]l, M. and Kovar[z]ik [I.]
AMYOTROPHIC LATERAL SCLEROSIS (Bokovoi Amiotroficheskii Skleroz). 15 Apr 63 [7]p. NIH no. 4-12-63.
Order from OTS or SLA $1.10 63-19250

Trans. of Zh[urnal] Nevropat[ologii i] Psikhiat[rii] (USSR) 1960, v. 60, no. 9, p. 1101-1105.

DESCRIPTORS: *Amyotrophic lateral sclerosis, Diseases, Etiology.

A study of 50 cases of Charcot disease, principally from the clinical viewpoint and also of external factors in the lives of the patients was made. With regard to the clinical forms, almost half of the 50 patients displayed an atypical onset of the disease in the lower extremities. The tentative analysis of nociceptive agents inducing the disease has shown that the basis was mostly past infectious diseases, hard physical labor, and chronic disease of the digestive tract. Etiology of the Charcot disease is still obscure and the treatment of this disease is still completely ineffective. The analysis of geological, climatic and environmental factors of the patients existing at the time of the onset of the disease did not disclose anything significant. (Author)

Simakov, V. P.
DIETARY AMINO ACID DEFICIENCY IN RELATION TO BLOOD SUGAR (Nedostatochnost' Aminokislot v Ratsione i Soderzhanie Glyukozy v Krovi). June 63 [7]p. 15 refs. RTS-2245.
Order from OTS or SLA $1.10 63-23254

Trans. of Ukrayins'kyi Biokhimichnyi Zhurnal (USSR) 1962, v. 34, no. 3, p. 400-405

DESCRIPTORS: *Deficiency diseases, *Diet, *Amino acids, *Blood, *Glucose, Methionine, Cystine, Alanines, Leucine, Lysines, Valine, Phenylalanine.

A diet deficient in methionine to the extent of 53 per cent of the normal, causes the blood sugar level to rise to 239 mg per cent, with range between 134 and 356 mg. per cent. A similar hyperglycaemia is produced by a deficiency of methionine and any one of the following: valine, leucine, lysine or phenyl alanine. Addition of methionine to the diet, up to the normal amount restores the blood sugar level to normal. Cystine does not have this effect. With diets deficient in valine or leucine, lysine or phenylalanine but not in methionine, the blood sugar level remains normal. (Author)

Smorodintsev, A. A.
ORIGINAL INVESTIGATIONS: PRINCIPAL RESULTS OF THE STUDY OF A LIVING VACCINE AGAINST INFLUENZA. [1963] [14]p. 3 refs. FASEB manuscript no. S 84-3.
Order from OTS or SLA $1.60 63-23052

Trans. of Klinicheskaya Meditsina (USSR) 1962, v. 40, no. 11, p. 33-39.

DESCRIPTORS: *Inhalation immunization, Vaccines, *Influenza vaccines, Standards, Immunity.

The standards and methods to be used in mass inhalation immunization against influenza are described. A divalent living vaccine is to be used. The manufacturer supplying the vaccine also provides a portable atomizer for the innoculation of the air in a plant or institution. Three doses of the vaccine are to be given in the fourth quarter of each year at intervals of 8 to 12 days.

Sokolovskii, V. V.
DETERMINATION OF BLOOD SULFHYDRYL GROUPS BY AMPEROMETRIC TITRATION. [1963] [11]p. 5 refs. FASEB manuscript no. S 269-2.
Order from OTS or SLA $1.60 63-23007

Trans. of Laboratornoe Delo (USSR) 1962, v. 8, no. 8, p. 3-6.

DESCRIPTORS: *Blood chemistry, Diagnosis, Tests, *Thiols, Titration.

The apparatus, chemicals employed, and the procedures used for determining the blood sulfhydryl groups by amperometric titration are described. It is suggested that this procedure can be widely applied in diagnosing specific pathology, or intoxications and in ascertaining the effectiveness of specific therapy. This method can be used in any regular biochemistry laboratory.

Wieske, Reinhold.
FILTERS FOR THE DETOXIFICATION OF TOBACCO SMOKE. [1963] 8p. 5 refs.
Order from OTS or SLA $1.10 63-16569

Trans. of German patent 1,004,986, C 999 IVa/79c, cl. 79c, internat. cl. A 24 b, appl. 25 Sep 54, pub. 21 Mar 57, by Cigarettenfabrik Muratti Aktiengesellschaft.
Another trans. is available from K-H $10.00 as K-H-11349 [1962].

DESCRIPTORS: Particulate filters, Cigarettes, *Tobacco, *Smokes, Toxicity.

The invention involves filters for the detoxification of tobacco smoke consisting at least partly of the ethers of carbohydrates of high molecular weight characterized by the fact that the said ethers are ethyl carboxylic acids. (Author)

Zelinskii, V. A.
THE FUNCTIONAL STATE OF THE ARTERIAL SYSTEM IN PATIENTS WITH HYPERTENSIVE DISEASE. [1963] [18]p. 16 refs. FASEB manuscript no. S 402-2.
Order from OTS or SLA $1.60 63-23031

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 10, p. 20-26.

DESCRIPTORS: *Arteries, *Hypertension, Heart, *Blood circulation, Velocity, Blood vessels, Atherosclerosis, Diagnosis.

The tone of arteries of hypertensive patients was studied by measuring the pulse wave velocity and examining the radiographic shadow of the aorta. The pulse wave velocity was measured from the carotid to the femoral artery, from the brachial to the radial, and from the popliteal to the dorsalis pedis artery. Sm/Se ratios (Sm is the speed of propagation of the pulse wave between the right brachial and radial arteries and Se is the velocity between the carotid and right femoral artery) were calculated for the patients in each class of atherosclerosis and the control subjects. A decrease in the Sm/Se ratio was most often due to atherosclerotic changes in the aorta, with Se being greater than Sm. A reduction of the Sm/Se ratio to below unity was found to be indicative of the presence of atherosclerosis of the larger arteries. A normal ratio does not exclude the possibility of atherosclerosis. This ratio was found to be more useful in evaluating the functional state of the musculature of the blood vessel walls than in evaluating atherosclerosis. A normal Sm/Se ratio with an increased pulse wave velocity along the aorta indicates an increased contraction of the muscles in the arterial wall. Because of the frequency of asymmetry in vascular tone, no conclusions could be made on the functional state of the entire vascular system on the findings of individual arteries.

Zilber, L. A., Baidakova, Z. L. and others.
POSSIBLE VIRAL ETIOLOGY OF AMYOTROPHIC LATERAL SCLEROSIS (O Vozmozhnoi Virusnoi Etiologii Bokovog Amiotroficheskogo Skleroza). 5 Apr 63 [17]p. 8 refs. NIH no. 4-8-63.
Order from OTS or SLA $1.60 63-19249

Trans. of #Voprosy Virusologii (USSR) 1962 [v. 7] no. 5, p. 520-528.

DESCRIPTORS: Viruses, Etiology, *Amyotrophic lateral sclerosis, Spinal cord, Brain.

Experimental data have been obtained suggesting that the viral nature of amyotrophic lateral sclerosis. A virous was isolated by means of infection of monkeys M. rhesus with brain and spinal cord extracts from fatal amyotrophic lateral sclerosis cases. In infected monkeys the virus causes an illness with clinical and

pathomorphological picture similar to that observed in man. The illness is characterized by an unusually long incubation period, from 1 to 4-5 years. Two intracerebral passages of the virus in monkeys caused no apparent attenuation in pathogenicity. The virus is apathogenic for mice and apparently for other laboratory animals. (Author)

Pharmacology and Toxicology

EXTRACTION-REFINING METHOD FOR A NEW ANTIBIOTIC LEUCOMYCIN. 14 June 63, 17p. 2299/55 Japan.
Order from INT $49.50

Trans. of Japanese patent 2299/55 by Kitasato Laboratories, Inc., filed 21 Jan 53.

DESCRIPTORS: *Antibiotics, Solvent extraction, Purification.

FORMATION METHOD FOR A NEW ANTIBIOTIC LEUCOMYCIN. 14 June 63, 14p. 2900/56 Japan.
Order from INT $40.50

Trans. of Japanese patent 2900/56 by Kitasato Laboratories, Inc., filed 21 Jan 53.

DESCRIPTORS: *Antibiotics, Production.

PROCESS FOR NOVEL THIOCORTICINE DERIVATIVES. 20 June 63, 8p. 17229/62 Japan.
Order from INT $24.00

Trans. of Japanese patent 17229/62 by Sandotz A. G. Switzerland, filed 1 Aug 60.

DESCRIPTORS: *Adrenal cortical extract, Thio radicals, Processing.

Aleksandrov, N. I., Gefen, N. E. and others
FURTHER STUDY OF REACTIVENESS AND IMMUNOLOGICAL EFFECTIVENESS OF THE METHOD OF AEROSOL IMMUNIZATION WITH THE BRUCELLOSIS DUST VACCINE (Aerozol'naya Immunizatsiya Sukhimi Pylevymi Vaktsinami i Anatoksinami. Soobshchenie IX. Dal'neishee Izuchenie Reaktogennosti i Immunologicheskoi Effektivnosti Metoda Aerozol'noi Immunizatsii Pylevoi Brutselleznoi Vaktsinoi). Communication no. 9 on Aerosol Immunization with Dry Powder Vaccines and Toxoids. 27 May 63 [19]p. 7 refs. Trans. V-1831.
Order from OTS or SLA $1.60 63-19609

Trans. of #Zhurnal Mikrobiologiim Epidemiologii i Immunobiologii (USSR) 1962, v. 33, no. 12, p. 95-102.

DESCRIPTORS: *Inhalation immunization, Vaccines, *Brucellosis vaccine, *Immunization, *Antigen-antibody reactions, Aerosols.

All virtually healthy people of both sexes, between the ages of 18 and 60, who have no medical contra-indications to inoculations and are not sensitized to the brucellosis infection, can be admitted to aerosol immunization with the brucellosis dust vaccine. The optimal dose of the brucellosis dust vaccine, inhaled by the vaccinated person, is a dose equalling 250-820 (1000) million live Brucella of the vaccinal strain 19BA. In mass aerosol immunization, the reactiveness of vaccinations is determined by the number of persons among them who are sensitized to brucellosis. In the absence of positive sero-allergic reactions in persons, who previously underwent subcutaneous (Cutaneous) inoculations with the live brucellosis vaccine, their aerosol revaccination with the brucellosis dust vaccine did not produce any increased reaction. Aerosol immunization produced a rapid and long lasting immunologic reorganization of the organism of the vaccinated, which was registered during the course of a year (period of observation). (Author) (See also 63-19234)

Aleksandrova, A. E.
THE EFFECT OF AMINAZINE ON THE DEVELOPMENT AND COURSE OF EXPERIMENTAL ULCER OF THE STOMACH (Vliyanie Aminazina na Razvitie i Techenie Eksperimental'nykh Yazv Zheludka) tr. by Wanda M. Feeley. Sep 61, 8p. (refs. omitted). PSC no. 60-1833.
Order from OTS or SLA $1.10 63-19713

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1960, v. 4, no. 1, p. 61-66.

DESCRIPTORS: *Chlorpromazine, Etiology, Drugs, *Peptic ulcers, Stomach, Therapy, Psycotropic agents.

Aminazine in a dose of 20 mg./kg. in guinea pigs and 10 mg./kg. in white rats has no pronounced preventive effect on the development of experimental gastric ulcers When aminazine is administered after these gastric ulcers have developed, their course deteriorates. Aminazine in a dose of 20 mg./kg. has a preventive effect on the development of histamine-induced gastric ulcers in guinea pigs; it is ineffective however in the treatment of these ulcers. (Author)

Chernogorov, I. A.
ANTITHYROID THERAPY IN CARDIAC FAILURE ASSOCIATED WITH CARDIOSCLEROSIS AND RHEUMATIC HEART DISEASE. [1963] [9]p. 8 refs. FASEB manuscript no. S 96-3.
Order from OTS or SLA $1.10 63-23050

Trans. of Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 11, p. 19-24.

DESCRIPTORS: Drugs, *Thyroid gland, Inhibition, Diseases, *Heart, Rheumatic diseases, *Cardiac glycosides, Diuretics, *Thiouracils.

The antithyroid drugs, mercazole and methylthiouracil combined with cardiac glucosides and diuretics were given to 100 patients with severe cardiac decompensation of 5 to 10 years duration. Cardiac glucosides and diuretics had become less effective with each hospital

admission. They were given methylthiouracil in doses of 0.25g 4 or 5 times daily or 0.005g of mercazole 4 times daily with the cardiac glucosides and diuretics. Of the 100 cases treated, 72 showed marked improvement by the 10th to the 15th day of treatment. The dyspnea ceased. The cyanosis and ascites diminished. The hemodynamic indices improved. Normal circulation time was restored. The vital capacity of the lungs increased. The minute volume of respiration was normalized. The patients were able to lead a more or less active life, but could not work for 5 months to 1 and one-half years. Before the antithyroid treatment they had been confined to bed and rarely left the hospital. There was no change in the condition of 13 patients. There were 15 deaths in the group. Of these, 12 occured during the first 10 days of treatment. The other 3 had had prolonged antithyroid therapy. The results obtained indicate that antithyroid drugs should be used with cardiac glucosides and diuretics when these latter drugs have become ineffective in treating cardiac decompensation.

Corada, M. E.
NEW DRUG COMBINATION IN THERAPY OF DIARRHEAL SYNDROMES [Nueva Asociacion Medicamentosa en el Tratamiento de los Sindromes Diarreicos). [Apr 63] [6]p. 5 refs.
Order from SLA $1.10 63-18005

Trans. of el Dia Médico (Argentina) 1961, v. 33, 27 July, p. 1466-1468.

DESCRIPTORS: Drugs, *Synergism, *Intestines, Amebicides, Chemotherapeutic agents, *Parasites, Quinones, Quinolines.

The results obtained with the use of a new medicamentous combination are described in the treatment of 18 cases of diarrhea. The drug proved effective in 66.66% of the cases; moderate in 11.11% and ineffective in 22.22%. We can see from the results that it is much more effective in acute than in chronic diarrheas (77.77% of therapeutic success). During observation no unpleasant side effects attributable to medication itself were found. (Author)

Durandeux, Jan.
PROCESS FOR NEUTRALIZING UNDESIRABLE PRODUCTS FROM THE COMBUSTION OF CIGARETTES AND METHODS FOR USING THIS PROCESS (WITH 1ST ADDITION). [1962] 13p.
Order from OTS or SLA $1.60 63-16888

Trans. of French patent 1,131,423 A 24 d, gr. 20, cl. 2, appl. 27 Oct 54, issued 22 Oct 56, pub. 21 Feb 57 (1st addition 68,053, appl. 10 Oct 55, issued 14 Oct 57, pub. 27 Mar 58).
Another trans. is available from K-H $8.75 as K-H-10929a 1962.

DESCRIPTORS: *Cigarettes, Smokes, Toxicity, Neutralization, *Combustion products, Tobacco.

The invention concerns a process for neutralizing combustion products of cigarettes, in which catalytic materials are used which are suitable for producing an additional combustion of the said combustion products in such a way as to suppress harmful effects. The addition concerns, as a new industrial product, an article intended for smoking, of the type which consists essentially of a roll of tobacco held in a paper cover, the said article including an intermediate layer of a metallic salt of the platinum group which surrounds the said roll of tobacco in order to ensure, during smoking a neutralizing effect on the combustion products of the said paper cover. (Author)

Durinyan, R. A.
THE EFFECT OF AMINAZINE ON THE AROUSED POTENTIAL OF THE CEREBRAL CORTEX. [1963] 8p. 11 refs.
Order from OTS or SLA $1.10 63-16459

Trans. of A[kademiya] N[auk] SSSR. D[oklady] 1961, v. 141, no. 5, p. 1253-1256.

DESCRIPTORS: Drugs, *Chlorpromazine, *Brain, *Cerebral cortex, Psychotropic agents, CNS depressants, *Bioelectronics.

Filippov, M. I.
AMINAZINE THERAPY OF ACTIVE FORMS OF TUBERCULOSIS IN MENTAL PATIENTS (Lechenie Aminazinom Aktivnykh Form Tuberkuleza u Psikhicheski Bol'nykh) tr. by Wanda M. Feeley. Sep 61, 5p. (refs. omitted). PSC no. 60-1744.
Order from OTS or SLA $1.10 63-19716

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60 [no. 8] p. 1024-1026.

DESCRIPTORS: *Chlorpromazine, Therapy, Drugs, *Tuberculosis, *Psychoses, Psychotropic agents.

Aminazine in a combination with regular antibacterial preparations in the treatment of severe forms of tuberculosis in the phase of infiltrative eruptions in psychotic patients produced good results. In schizophrenics the tubercular process improved together with their psychic state due to aminazine. The remissions in schizophrenics suffering from tuberculosis are parallel to the improvement in their tubercular process. It is possible to use aminazine therapy on psychotic patients, suffering from pulmonary tuberculosis, without deteriorating their tubercular process. (Author)

Fiorentini, Sergio.
CLINICAL ASPECTS OF FLUOROSIS IN SUBJECTS BORN IN A NONENDEMIC ZONE AND WHO HAD MIGRATED THERE, AND IN SUBJECTS BORN IN AN ENDEMIC ZONE AND WHO HAD NOT LIVED THERE CONTINUOUSLY, VIII. [Apr 63] [17]p. 7 refs.
Order from SLA $1.60 63-16966

Trans. of Rivista Italiana di Stomatologia, 1947, v. 2, no. 11, p. 922-935.

DESCRIPTORS: *Fluorides, *Teeth, *Gingivitis, Dental caries, Absorption (Physiology), *Aging (Physiology), Calcification.

On the basis of data reported, the author believes that it is the period of development and calcification of teeth which is more sensitive to the action of fluoride so that it is possible in some cases, even macroscopically, to distinguish the time when absorption of fluoride had begun. Analogously, the alveolar process becomes more liable, the younger the subject is when absorption of fluoride begins. The extent of gingivitis is directly proportional to the duration of fluoride ingestion. (Author) (See also 63-16965)

Fiorentini, S[ergio].
GINGIVITIS AND PARADENTAL DISEASES IN FLUOROTIC SUBJECTS, VII. [Le Gengiviti e le Paradenziopatie nei Soggetti Fluorotici]. Apr 63, 8p. (refs. omitted).
Order from SLA $1.10 63-16965

Trans. of Rivista Italiana di Stomatologia, 1947, v. 2, no. 9, p. 773-780.

DESCRIPTORS: *Gingivitis, Diseases, Mouth, *Florides, *Teeth, Toxicity, Etiology.

Franchi, G. and Gianni, A. M.
INVESTIGATIONS ON THE DISTRIBUTION OF CHLORPROMAZINE IN THE MATERNAL AND FETAL TISSUES AND BIOLOGICAL FLUIDS; IDENTIFICATION OF CHLORPROMAZINE AND SOME OF ITS METABOLITES BY PAPER CHROMATOGRAPHY; INVESTIGATIONS ON THE DRUG-PROTEIN BOND: BEHAVIOR OF CHLORPROMAZINE IN THE PRESENCE OF SERUM PROTEINS STUDIED WITH THE ELECTROPHORETIC METHOD (Ricerche sulla Distribuzione della Clorpromazina nei Tessuti e nei Liquidi Biologici Materni e Fetali; Identificazione della Clorpromazina e di Alcuni suoi Metaboliti Mediante Cromatografia su Carta; Ricerche sul Legame Farmacoproteico. Comportamento della Clorpromazine in Presenza di Siero-proteine Studiato con Metodo Elettroforetico). [1957] 7p.
Order from SLA $1.10 63-16409

Trans. of Arch[ivio] Ital[iano di] Scienze Farmacol[ogiche] 1950 [ser. 2, v. 3] no. 6, p. 229-231.

DESCRIPTORS: Drugs, *Body fluids, *Chlorpromazine, *Pregnancy, *Embryos, Tissues (Biology), *Blood proteins, *Electrophoresis, Paper chromatography.

Gross, F. and Schaaf, F.
BEHAVIOR OF THE SKIN TOWARD ACIDS OF MEDIUM CHAIN LENGTH. [1963] [26]p. (figs. omitted) 7 refs.
Order from SLA $2.60 63-18478

Trans. of Hoppe-Seyler's Z[eitschrift fllr Physiol [ogische] Chem[ie] (West Germany) 1953, v. 295, p. 119-128.

DESCRIPTORS: *Skin, Adaptation (Physiology), *Fatty acids, Ointments, Toxicity.

When fatty acids, triglycerides or other fatty acid esters are repeatedly rubbed into the intact guinea pig skin, only the straight-chain saturated fatty acids with medium chain length (C_6-C_{14}) and triglycerides which possess these fatty acids in more abundant amounts show a special behavior. The epidermis undergoes a thickening probably attributable to a stimulation of the new growth of cells, besides which certain representatives can also induce relatively marked skin damage. In unsaturated fatty acids of lower and higher chain length this influence on the skin was not limited to the medium members, according to previous experience. The practical significance of this behavior of certain fatty acids is mentioned. (Author)

Hayashi, Shuichi; Ando, Shunro, and Tajima, Hirashi.
TREATMENT OF BACILLARY DYSENTERY WITH COLIMYCIN-S. [1963] 9p. 15 refs.
Order from SLA $1.10 63-18032

Trans. of [Nihon Densenbyo Gakkai Zasshi] (Japan) 1958, v. 32, no. 6, p. 146-149.

DESCRIPTORS: *Shigella infections, Antibiotics, *Colimycin, Drugs, Streptomycins.

Colimycin-S (30 mg/kg) therapy for bacillary dysentery was considered to be slightly inferior to other antibiotics because of the frequency of reexcretion of bacilli upon cessation of therapy. Colimycin-S should be tried in combination with streptomycin in those cases of bacillary dysentery which have proven to be highly resistant to chloromycetin, streptomycin and tetracycline. (Author)

Il'yuchenok, R. Yu.
COMPARATIVE STUDY OF THE EFFECT OF AMINAZINE AND PROPAZINE ON BIOELECTRICAL CEREBRAL ACTIVITY (Sravnitel'noe Izuchenie Vliyaniya Aminazina i Propazina na Bioelektricheskuyu Aktivnost' Mozga) tr. by Wanda M. Feeley. Sep 61, 11p. (refs. omitted). PSC no. 60-1573.
Order from OTS or SLA $1.60 63-19718

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60 [no. 2] p. 202-209.

DESCRIPTORS: Drugs, *Chlorpromazine, *Phenothiazines derivatives, Psychotropic drugs, *Bioelectronics, Brain, *Cerebral cortex.

Inada, Tsutomo and Sawanishi, Kenji.
CLINICAL EXPERIENCES WITH COLISTIN IN INFECTIONS OF THE URINARY TRACT. [1963] 21p. 4 refs.
Order from SLA $2.60 63-16432

Trans. of Hinyokika Kiyo (Japan) 1961, v. 7, no. 12, p. 1067-1073.

DESCRIPTORS: *Colimycin, Antibiotics, Drugs, *Urinary system, *Infections.

The culture and sensitivity of the bacteria from urine or pus of in-and out-patients who had been on long-term antibiotic therapy or who had not responded well to various antibiotic therapy were studied. The following are the results of therapy with colistin in patients with urinary tract infection caused by pathogens resistant to various antibiotics. (1) Colistin-resistant urinary bacteria are rare. (2) Of 13 patients to whom colistin was administered 10 patients showed a favorable response in both clinical and laboratory findings. One patient is still being evaluated and another patient was not given a trial of colistin therapy. (3) Five out of 13 patients to whom colistin was administered developed side reactions and in three patients colistin administration had to be discontinued. Side reactions were manifested by general malaise, anorexia nausea and vomiting. In one patient, a high temperature was noted about three to four hours after injection but the temperature returned to normal in 12 to 24 hours. (4) The pain at the site of injection was greater that in the case of other drugs and therefore it is a little inconvenient for pediatric use. (Author)

Jager, Herbert.
QUANTITATIVE DETERMINATION OF ALLICIN IN FRESH GARLIC. [1963] 6p. (figs. omitted) 10 refs.
Order from SLA $1.10 63-16278

Trans. of Archiv der Pharmazie (West Germany) 1955, v. 288, no. 3, p. 145-148.

DESCRIPTORS: *Quantitative analysis, Plants (Botany), Colorimetric analysis, Drugs, *Biological products.

In order to determine the total sulfur content in fresh garlic, the fresh drug must be treated with concentrated nitric acid, in order to avoid losses of volatile sulfur compounds. Only then is the previously oxidized drug decomposed with sodium nitrate. Furthermore, a determination of the Allicin or Alliin in fresh garlic is given, in which the pyroracemic acid formed in stoichiometric amounts during the enzymatic decomposition of the Alliin is determined colorimetrically as 2, 4-dinitrophenylhydrazone in ammoniacal solution. A Lange Universal Colorimeter VI with blue filter was used. (Author)

Kabachnik, M. I., Godovikov, N. N., and Godina, E. I.
SYNTHESIS OF SOME PHYSIOLOGICALLY ACTIVE ORGANOPHOSPHORUS COMPOUNDS. 1 Aug 63, 11p. 10 refs. JPRS: 20448.
Order from OTS $0.50 63-31430

Trans. of #Zhurnal Obshchei Khimii (USSR) 1963, v. 33, no. 4, p. 1335-1342.

DESCRIPTORS: *Phosphorus compounds, *Cholinesterase inhibitors, Ethyl radicals, Methyl radicals, Alkyl radicals, Organic compounds.

A series of O-ethyl-S-(ethylmercaptoalkyl)-methylthiophosphinates was synthesized along with the O-ethyl-O-(β-ethylmercaptoethyl)-methyl phosphinate and the O-ethyl-O-(β-ethylmercaptoethyl)-chloromethyl phosphinate which were converted to the corresponding methylsulfomethylates. O-Ethyl-O-(β-ethylmercaptoethyl)-β-dimethylaminoalkyl phosphinates were synthesized and used to produce the corresponding N-methylsulfomethylates and N,S-dimethyldisulfomethylates. It was demonstrated that under the action of an equimolar amount of dimethyl sulfate on O-ethyl-(β-ethylmercaptoethyl)-dimethylaminoalkyl phosphinates, alkylation occurs, forming N-methylsulfomethylates, and not S-methylsulfomethylates. (Author)

Kagan, Yu. S.
ON THE PROBLEM OF THE MECHANISM OF THE SELECTIVITY OF TOXICITY OF ORGANOPHOSPHORUS INSECTICIDES. 6 Aug 63, 9p. 4 refs. JPRS: 20522.
Order from OTS $0.50 63-31470

Trans. of Gigiena Truda i Professional'nye Zabolevaniya (USSR) 1963, v. 7, no. 5, p. 38-43.

DESCRIPTORS: *Insecticides, *Phosphorus compounds, *Toxicity, *Cholinesterase inhibitors, Organic compounds.

A study was made of 120 organic phosphorus compounds Determination was made of which of these alter the internal biological activity of animals and the direction of this change. The findings were compared with the insecticidal activity of the individual compounds. An analysis of the data obtained permitted the division of the compounds into four groups: those with high anticholinesterase activity in vitro and a high toxicity; those with relatively low anticholinesterase activity and high toxicity; those with relatively high anticholinesterase activity in vitro and low toxicity for warm-blooded animals; and, those with low anticholinesterase activity in vitro and low toxicity. Each of the groups is discussed.

Kaufmann, Henri and Bensimon, Lucien.
WEANING FROM TOBACCO. [1962] 3p.
Order from SLA $1.10 63-16652

Trans. of la Vie Médicale (France) 1960, v. 41, p. 1139-1140.
Another trans. is available from K-H $3.75 as K-H 11153-b [1962] 3p.

DESCRIPTORS: *Tobacco, Cigarettes, Smokes, *Addiction, Toxicity.

Tobacco may be considered harmful when the "tobacco test" is positive: this test makes objective the cardio-arterial modifications appearing under the influence of tobacco. To carry out the habit-breaking (weaning), aside from psychological arguments and "small measures," lobeline, which is difficult to use, seems to give interesting results. (Author)

Kazanets, E. F.
ON THE FUNCTIONAL CHARACTERISTICS OF THYROID GLAND DURING INSULIN AND AMINAZINE THERAPY OF SCHIZOPHRENIC PATIENTS (Ob Osobennostyakh Funktsional'nogo Sostoyaniya Shchitovidnoi Zhelezy vo Vremya Lecheniya Bol'nykh Zhizofreniei Insulinom i Aminazinom) tr. by Wanda M. Feeley. Sep 61, 7p. (refs. omitted). PSC no. 60-1911.
Order from OTS or SLA $1.10 63-19704

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60, no. 8, p. 1015-1018.

DESCRIPTORS: *Thyroid gland, *Insulin, Drugs, Shock therapy, *Chlorpromazine, *Psychoses, Psychotropic agents.

Keberle, H., Riess, W. and others.
MECHANISM OF BIOLOGICAL N-DEALKYLATION (Uber den Mechanismus der Biologischen N-Desalkylierung). [Apr 63] 15p. 34 refs.
Order from SLA $1.60 63-18014

Trans. of Arch[ives] Internat[ionales de] Pharmacodyn[amie et de Therapie] (Belgium) 1963, v. 142, no. 1/2, p. 125-140.

DESCRIPTORS: *Doriden, Absorption (Biology), Drugs, Excretion, Stereochemistry, Metabolism, *Glutaric acids, *Alkylation, *Hypnotics and sedatives.

The metabolism of dextrorotatory and levorotatory N-methyl-α-phenyl-α-ethyl-glutarimide was studied in the dog. It was found that the two optical antipodes were excreted in the urine as two glucuronides each. One metabolite of each antipode was identified as a glucuronide bearing the glucuronic acid at the N-methyl group. The two other metabolites no longer carried a N-methyl group. The one derived from the dextrorotatory antipode carried the glucuronic acid in the glutarimide ring; the one originating from the levorotatory compound carried the glucuronic acid in the ethyl side chain. The significance of these findings is discussed in connection with the mechanism of enzymatic C-N bond cleavage. (Author)

Kovalev, V. V. and Kazanskaya, A. E.
AN EFFECTIVE METHOD FOR LOWERING THE RESISTANCE TO INSULIN IN PSYCHOTIC PATIENTS (Effektivnyi Metod snizheniya Rezistentnosti k Insulinu u Psikhicheski Bol'nykh) tr. by Wanda M. Feeley. Dec 61, 9p. (refs. omitted). PSC no. 60-2583.
Order from OTS or SLA $1.10 63-19709

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60, no. 9, p. 1198-1203.

DESCRIPTORS: *Tolerances (Physiology), Insulin, *Psychoses, *Hexonium, Drugs, Sensitivity, Shock therapy, Autonomic agents.

Mehnert, H. and others.
THE ADMINISTRATION OF HIGH PERORAL DOSES OF FRUCTOSE, SORBIT OR FRUCTOSE-SORBIT MIXTURES TO DIABETICS. [1963] 3p.
Order from SLA $1.10 63-18035

Trans. of Münchener Medizinische Wochenschrift (West Germany) 1960, v. 102, p. 276-279.

DESCRIPTORS: *Fructose, *Diabetes, Drugs, Dosage, Tolerances (Physiology).

Mironova, A. I.
ON THE EFFECT OF THE ROOTS OF P. GINSENG AND ELEUTEROCOCCUS ON THE GROWTH OF EHRLICH'S CARCINOMA (O Vliyanii Ekstraktov iz Kornei Zhen'shenya I Eleuterokokka na Rost Kartsinomy Erlikha). 5 June 63, 7p. 5 refs. NIH no. 6-1-63.
Order from OTS or SLA $1.10 63-23129

Trans. of Voprosy Onkologii (USSR) 1963 [v. 9] no. 1, p. 42-44.

DESCRIPTORS: Drugs, *Antineoplastic agents, Inhibition, *Cancer, Tumors, *Thiols, Purines, Plants (Botany).

The influence of extracts out of the roots of jenshen and eleuterococcus on the growth of the Ehrlich carcinoma was studied. The experiments were made on 279 white nonbred mice. The injection of the preparabegan on the fifth day after transplantation.

Morito, Toshiaki.
ANTIBIOTIC COLISTIN FROM BACILLUS COLISTINUS KOYAMA. Pt. 1 of Studies on the Culture of Bacillus Colistinus Koyama. [1963] 20p. 6 refs.
Order from SLA $1.60 63-16435

Trans. of Nihon Nogei-Kagakkai Shi (Japan) 1962, v. 36, no. 1, p. 18-23.

DESCRIPTORS: Drugs, *Antibiotics, *Colimycin, *Bacillaceae, Culture media, Biosynthesis.

Morito, Toshiaki.
ANTIBIOTIC COLISTIN FROM BACILLUS COLISTINUS KOYAMA. Pt. 2 of Studies on the Culture of Bacillus Colistinus Koyama. [1963] 15p. 4 refs.
Order from SLA $1.60 63-16436

Trans. of Nihon Nogei-Kagakkai Shi (Japan) 1962, v. 36, no. 1, p. 24-28.

DESCRIPTORS: Drugs, *Antibiotics, *Colimycin, Biosynthesis, Culture media, *Bacillaceae.

(See also 63-16435

Morito, Toshiaki.
ON COLISTIN, AN ANTIBIOTIC PRODUCED BY BACILLUS COLISTINUS KOYAMA. PT. III. ISOLATION OF COLISTIN A_1 and A_2. [1963] 15p. 15 refs.
Order from SLA $1.60 63-16437

Trans. of Nihon Nogei-Kagakkai Shi (Japan) 1962, v. 36, no. 5, p. 393-397.

DESCRIPTORS: Drugs, *Antibiotics, *Colimycin, Biosynthesis, *Bacillaceae, Culture media.

(See also 63-16436)

Morito, Toshiaki.
ON COLISTIN, AN ANTIBIOTIC PRODUCED BY BACILLUS COLISTINUS KOYAMA. PT. IV. THE AMINO ACID SEQUENCE OF COLISTIN A_1. [1963] 14p. 15 refs.
Order from SLA $1.60 63-16507

Trans. of Nihon Nogei-Kagakkai Shi (Japan) 1962, v. 36, no. 5, p. 398-402.

DESCRIPTORS: Drugs, *Antibiotics, *Colimycin, Biosynthesis, Chemical analysis, Biochemistry, *Bacillaceae.

(See also 63-16437)

Nakamura, Fumiya, Kumatani, Mitsuo and others.
THE ROLE OF ANTIBIOTICS ON THE TREATMENT OF WHOOPING COUGH. TREATMENT OF EXPERIMENTALLY INDUCED WHOOPING COUGH. [1963] 10p. 18 refs.
Order from SLA $1.10 63-18038

Trans. of Nihon Iji Shinpo (Japan) 1951, no. 1435, p. 17-19.

DESCRIPTORS: *Whooping cough, *Antibiotics, *Colimycin, *Streptomycins, *Aureomycin, *Chloromycetin, Vaccines.

The current status of the therapy of whooping cough with antibiotics is reviewed. The therapeutic effect of colistin are described and its results are compared to those of streptomycin, aureomycin, and chloromycetin. Furthermore, the efficacy of streptomycin is compared with that of pertussis vaccine. The therapeutic effect of colistin on the experimental pertussis infection was studied using the cerebral inoculation method. In conclusion, the therapeutic effect of colistin was found to be considerable both in clinical cases and in animal experiments. (Author)

Ohse, Walter.
METHOD FOR THE PRODUCTION OF CHLORAL HYDRATE. [1963] 3p.
Order from OTS or SLA $1.10 63-18146

Trans. of German patent 734,723, cl. 12.c, gr. 5.04, appl. C 53406 IVd/12.o, effective as 27 Nov 37, allowance of patent notified 25 Mar 43, by Chemische Fabrik von Heyden AG.

DESCRIPTORS: *Ethanols, Chlorides, Hydrates, Production, Alcohols, Chlorination, Crystallization, *Hypnotics and sedatives, Antispasmodic agents, Germicides.

Petukhova, G. N., Petukhov, B. N., and Polezhaev, D. F.
THE EFFECT OF AMINAZINE OF REFLEX ACTIVITIES OF VARIOUS COMPLEXITIES (Vliyanie Aminazina na Reflektornye Akty Razlichnoi Slozhnosti) tr. by Wanda M. Feeley. 16 May 61, 11p. (refs. omitted). PSC no. 60-1755.
Order from OTS or SLA $1.60 63-19120

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1960, v. 60 [no. 8] p. 994-1001.

DESCRIPTORS: *Chlorpromazine, *Reflexes, Drugs, Nervous system, Brain, *Cerebral cortex, Psycotropic agents.

Raevskii, K. S.
THE USE OF AMINAZINE AND MEPAZINE IN COMBINATION WITH ANTICONVULSIVE PREPARATIONS (O Promenenii Aminazina i Mepazina v Sochetanii s Protivosudorozhnymi Veshchestvami) tr. by Wanda M. Feeley. May 61, 11p. (refs. omitted). PSC no. 60-1772.
Order from OTS or SLA $1.60 63-19714

Trans. of Zhurnal Nevropatologii i Psikhistrii (USSR) 1960, v. 60, no. 8, p. 1002-1008.

DESCRIPTORS: *Chlorpromazine, Tranquilizers, Phenothiazines, *Anticonvulsants, *Epilepsy, *Hypnotics and sedatives, Drugs.

Ruiz Sanchez, Fco., Ruiz Sanchez, A. and others.
SENSITIVITY OF SH. FLEXNERI TO COLISTIN AND OTHER ANTIBIOTICS (Sensibilidad de Sh. Flexneri a la Colistina y Otros Antibioticos). [1963] 5p. 12 refs.
Order from SLA $1.10 63-16538

Trans. of Med[icina]; Rev[ista] Mex[icana] 1961, v. 41 v. 41, 10 Feb, p. 49-52.

DESCRIPTORS: *Sensitivity, *Shigella, *Antibiotics, *Colimycin, Drugs.

Schachtner, J.
ORGANIC FLUOR COMBINATIONS IN ANIMAL RESEARCH. [1963] 3p.
Order from SLA $1.10 63-18007

Trans. from Zahnärzt[l]iche Rundschau (West Germany) 1955, v. 64, no. 5.

DESCRIPTORS: *Antitubercular agents, Drugs, Animals, Tuberculosis, *Fluorides, *Organic compounds, Tuinolines.

The effects of "SEPTOFLUOR", on guinea pig tuberculosis are reported. With subcutaneous injections in higher dosages extensive local tissue damages occur. The

intramuscular injection is painful, but better supported. The tissue damages were due to the high alcohol content (solution agent) and not the organic fluor combination. No side effects or tissue damages on the parenchymatous organs occurred during the entire test duration of two months, even with unusually high dosages. (Author)

Tuchmann-Duplessis, Herbert and Mercier-Parot, Lucette.
REPERCUSSIONS OF CERTAIN HYPOGLYCEMIC AGENTS ON THE GESTATION AND FETAL DEVELOPMENT OF THE RAT. [1963] 14p.
Order from SLA $1.60 63-18428

Trans. of Journées Ann[uelles de] Diabet[ologie de l']Hotel-Dieu (France) 1962, v. 3, p. 141-149.

DESCRIPTORS: Toxicity, Drugs, Hypoglycemia, *Diabetes, *Embryos, *Anomalies, Pregnancy, Sulfonamides.

The study of five hypoglycemic substances, four sulfonamides and one biguanide, showed their toxicity in the pregnant rat. This toxicity is variable from one substance to another and does not appear to bear any relationship to their hypoglycemic potency. Among the hypoglycemic sulfonamides, two were shown to be teratogenic - carbutamide and tolbutamide. The first produces an average of 25% of malformations, this percentage going to 40% when treatment was instituted before conception. The other two sulfonamides interrupt pregnancy, but do not produce anomalies. In the majority of cases, ocular malformations are observed microphthalmias, anophthalmias and various lesions of the retina or the optic nerve. The optic fibers are absent or have an abnormal course. In a small number of cases, the anomalies are more severe and involve the brain and the marrow. Biguanides produced very severe anomalies, with double monsters, but in low percentage. The experiments indicate that the morphogenetic accidents are not directly related to glucose equilibrium, but to some other more specific metabolic modification. (Author)

Tuchmann-Duplessis, H. and Mercier-Parot, L.
THE TERATOGENIC ACTION OF SOME ANTIMITOTIC SUBSTANCES IN RATS (Sur l'Action Tératogène de Quelques Substances Antimitotiques Chez le Rat). [Apr 63] 3p.
Order from SLA $1.10 63-18016

Trans. of Acad[emie des] Sciences [Paris]. C[omptes] R[endus] (France) 1958, v. 247, July-Sep, p. 152-154 (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Anomalies, Genetics, Toxicity, *Mitosis, Embryos, Pregnancy, Drugs.

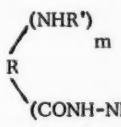
Five substances: 1-methyl-4-aminopyrazolo (3, 4-d)-pyrimidine, triethylene melamine, 6-mercaptopurine, Colcemide and urethane were given in varying doses on the 7th, 8th and 9th day of pregnancy. They have marked abortive action and the first two provoke malformations in 6%. (Author)

Ueda, T. and others.
PREPARATION OF AMINO-ACID DERIVATIVES. [1963] 3p.
Order from OTS or SLA $1.10 63-16090

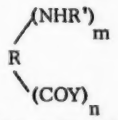
Trans. of published Japanese patent 420/57, filed 22 Mar 54, pub. 25 Jan 57, by Dai Nippon Pharmaceutical Co., Ltd.

DESCRIPTORS: Amino acids, *Glutamic acid, *Aspartic acid, *Chemotherapeutic agents, *Mycobacterium tuberculosis, Hydrazines, Hydrazine hydrate, Hydroxides.

The invention involves a process for preparation of amino-acid derivatives of general formula



(m and n = 1 or 2, Z = H or acyl or arylsulfonyl), characterized in that an amino-acid derivative of general formula



(m and n = 1 or 2, Y = a group substitutable for the hydroxyl in carboxyl, R' = acyl or arylsulfonyl, R = an aliphatic or aromatic residue or an aromatic residue linked to an aliphatic group) is reacted with hydrazine or acyl or arylsulfonyl derivative thereof. (Author)

Urban, B.
ACUTE CEREBRAL SIDE EFFECTS OF STREPTOMYCIN, STREPTOMYCIN PANTOTHENATE, NEOMYCIN, KANAMYCIN, BACITRACIN, COLIMYCIN AND NEBACETIN(R): EXPERIMENTAL INVESTIGATIONS ON RABBITS (Die Akuten Cerebralen Nebenwirkungen von Streptomycin, Streptomycinpantothenat, Neomycin, Kanamycin, Bacitracin, Colimycin und Nebacetin(R). Experimentelle Untersuchungen am Kaninchen). [1963] 34p. 37 refs.
Order from SLA $3.60 63-16383

Trans. of Acta Neurochirurgica (Austria) 1961, v. 9, Mar, p. 398-428.

DESCRIPTORS: *Brain, Toxicity, Streptomycins, Neomycin, Colimycin, *Antibiotics, Drugs, *Tolerances (Physiology), Rabbits.

Vartapetov, B. A. and Shifman, L. M.
EXPERIENCE WITH THE USE OF TESTOBROMLECIT IN CLINICAL PRACTICE (Opyt Primeneniya Testobromletsita v Klinicheskoi Praktike) tr. by Wanda M. Feeley. Mar 62, 5p. (refs. omitted).
PSC no. 60-2772.
Order from OTS or SLA $1.10 63-19707

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1960, v. 6 [no. 6] p. 112-115.

DESCRIPTORS: Drugs, *Testosterone, *Bromides, Therapy, *Hormones, Sex glands, Secretion.

Vel'tishchev, Yu. E.
THE USE OF NEUROPLEGIC PREPARATIONS IN COMBINED THERAPY OF TOXIC STATES IN INFANTS (Primenenie Nevroplegicheskikh Preparatov v Kompleksnoi Terapii Toksicheskikh Sostoyanii u Detei Rannego Vozrasta) tr. by Wanda M. Feeley. Sep 61, 8p. (refs. omitted). PSC no. 60-1738.
Order from OTS or SLA $1.10 63-19717

Trans. of Pediatriya (USSR) 1960, v. 38 [no. 7] p. 65-70.

DESCRIPTORS: *CNS depressants, Chlorpromazine, *Toxicity, *Infants, *Dehydration, *Shock (Pathology), Drugs, Phenothiazines, Psychotropic agents.

The reliable antiemetic, anticonvulsive and hypothermic effect of neuroplegic preparations with correctly selected indications facilitates the combined therapy of toxicosis. The primary results of the use of these preparations make it possible to arrive at a conclusion that the neurotoxicosis and acute toxicosis with exsiccosis are the indices for their use. Unsatisfactory results are obtained with a deep coma, collapse, and in toxicoseptic states. It is more advantageous to use promazine than aminazine in therapy of children. An average 4 mg./kg. daily dose of promazine can be increased to 10 mg/kg. in the cases of acute excitation, hyperthermia, and convulsions. A daily dose of aminazine did not exceed 4 mg./kg.

Votava, Z.
THE EFFECT OF CERTAIN CHOLINOLYTIC AGENTS AND TRANQUILIZERS ON THE DURATION OF NICOTINE AND ARECOLINE INDUCED SPASMS IN RABBITS. [1962] 15p.
Order from K-H $18.75 K-H 12447

Trans. of #Farmakologiya i Toksikologiya (USSR) 1962 [no. 3] p. 291-297.

DESCRIPTORS: Rabbits, Contraction, Muscles, *Nicotine, *Tranquilizers, Cholines.

Ydanov, Yu. A. and Korolchenko, G. A.
NITRO-ESTERS C-SUBSTITUTÉS DES HYDROCARBURES (Nitric Acid Esters with Substituted Hydrocarbons). 4p. 7 refs. FR-2101.
Order from OTS, ETC or CNRS $0.80 62-26492

Trans. in French of Akademiya Nauk SSSR. Doklady, 1961, v. 137, no. 2, p. 333-334.

DESCRIPTORS: *Nitro radicals, Hydrocarbons, Hydroxides, *Vasomotor drugs.

Radiobiology

MEDICAL RADIOLOGY, 1963, VOL. 8, NO. 5: [SELECTED] TRANSLATIONS. 6 Aug 63, 16p. 6 refs. JPRS: 20520.
Order from OTS $0.50 63-31468

Trans. of Meditsinskaya Radiologiya (USSR) 1963, v. 8, no. 5, p. 39-43, 79-82.

DESCRIPTORS: *Radiobiology, *Radiation effects, Medical personnel, Neoplasms, Brain, Gold, *Radiation sickness, *Radioprotective agents.

Contents:
Radiation exposure of medical personnel during work with Au 198 granules in neuro-oncological clinics, by A. A. Volkov and others
The protective and therapeutic effect of synergistic action of effective substances on the outcome of radiation sickness in animals, by A. M. Stashkov and V. P. Korotkova.

RADIOBIOLOGY, 1962, VOL. 2, NO. 4. 31 MAY 63, 195p
Order from OTS $3.00 AEC-tr-5431

Trans. of Radiobiologiya (USSR) 1962, v. 2, no. 4, p. 513-639.

DESCRIPTORS: *Radiobiology, *Radiation tolerance, Bioelectronics, Radiation effects, X-rays, *Tumors, *Ribonucleic acids, *Abscesses, Radiation sickness, Blood, *Catalase, Yeasts, *Liver, *Epinephrine, Glycogen, *Bone marrow, Nucleic acids, *Blood sugar, Tissue extracts, *Transplantation, Plants (Botany), *Thyroid gland, Cerebral cortex, *Reflexes, Immunity, *Blood proteins, *Vaccines, *Antigens and antibodies, Globulins, *Antigens and antibodies, Globulins, Buckwheat, *Genetics, Ovaries, *Fertility, *Radioprotective agents, *Porphyrins, Glycines, *Antioxidants, Embryos, Eyes, *Cysteinamines, *Nicotinic acid, Tissues (Biology), Absorption (Biology), Oxygen, Plankton, *Dosimeters, Seeds, *Mutations, Potatoes.

Contents:
On acquired radioresistance, by S. Ya. Arbuzov and P. I. Lomonos
Dielectric structure of liver cell and its change after action of radiation and cystein, by K. S. Trincher and A. A. Mikhailova
X-ray action on high polymeric RNA of Ehrlich ascite tumor, by L. S. Milman and I. M. Shapiro
Permeability of Selye's abscess for some radiactive isotopes during the acute radiation syndrome, by N. P. Ushkov
Influence of some monomeres on biological functions of irradiated yeast cells, by Yu. P. Kozlov and others
Some data on catecholamines and their oxydation during radiation sickness, by B. B. Moroz and others
Changes in blood catalase activity after exposure to lethal doses of X-rays, by 'L. A. Tyunov and others
A histochemical study on action of ionizing radiation on nucleic acids and glycogen in rat liver, by G. D. Gubin
Action on ionizing radiation on contents of sugar and lactic acid in rat liver, by V. A. Kostromskaya
An experimental study on autotransplantation of bone marrow cells during radiation sickness, by G. S. Strelin and others
A comparative study of influence of extracts from irradiated and non-irradiated plants on transplantability of tumor cells, by L. M. Kryukova and A. M. Kuzin
On mechanism of action of irradiated thyroid gland on cerebral cortex, by I. N. Kondrateva
Changes in myotatic reflexes in X-irradiated rabbits, by Z. M. Gvordikova

Immunic properties of denatured blood serum proteins of irradiated rabbits, by L. G. Prokopenko

Influence of X-irradiation of rabbits on their natural resistance and active immunity against vaccina, by L. A. Kamalyan

A study of antigen structure of globulin fraction obtained from irradiated tissues, by G. M. Lvitsina and Yu. D. Balika

Selection of radioresistant diploid and autotetraploid forms of buckwheat (Fagopyrum esulentum Moenh) by R. N. Platonova and V. V. Sakharov

Sr^{90} induced morphologic changes in albino rat ovary and disturbances in fertility, by T. V. Vorogeikina

Radioprotective and radiomimetic effects of propylgallate in glycine and hemin solutions, by M. I. Amiranova and N. A. Duenkova

Protective effects of phenatine and mercamine on X-rays induced changes in development of eye scleral papillae of chick embryo, by V. F. Puchov

Effects of some radioprotectors on O_2-tension in tissues in connection with their influence on radiosensibility of animals, by K. A. Seitunyan and others

A brief characteristic of plankton samples for biological analysis, by A. F. Fedorov

Improvement of ferrous sulfate dosimeter, by S. S. Kusnetsova and I. K. Sokolova

Results of production test of maize seed presowing treatment with Cs^{137} γ-rays, by N. M. Berezina and others

Methods for revealing of induced somatic mutations in potatoes, by E. A. Solomko'

Radioprotectors: book review by P. P. Saksonov of mono. by L. A. Tyunov and others pub. Moscow-Leningrad, 1961.

Gur'ev, A. F.

COMBINED ACTION OF NEUTRON IRRADIATION AND ELEVATED TEMPERATURE ON ANIMALS. 29 July 63, 7p. 4 refs. JPRS: 20379.
Order from OTS $0.50 63-31396

Trans. of Gigiena i Sanitariya (USSR) 1963, v. 28, no. 5, p. 24-29.

DESCRIPTORS: *Radiation effects, *Neutrons, *Temperature, *Fast neutrons, Animals,

Rabbits irradiated with fast neutrons in a maximum tissue dose of 0.4 rad per week (a total irradiation dose of 8.6 rad) exhibited changes in certain red and white blood indices and the blood coagulation system. These changes were more marked in the animals subjected to the combined action of chronic fast-neutron irradiation and elevated ambient-air temperature (37-39°). Exposure to elevated ambient-air temperature intensifies the development of radiation injuries on fractionated fast-neutron irradiation. When planning protective measures and the organization of work with sources of fast neutrons, it is necessary to take into account the possibility of prolonged exposure to an elevated ambient-air temperature. (Author)

Kakushkina, M. L., Korolev, N. P., and Kudryashov, Yu. B.

THE PROTECTIVE ACTION OF RADIOPROTECTORS (CYSTOAMINE, CYSTINEAMINE, AND AET) ON THE RADIOMIMETIC EFFECT CAUSED BY OLEIC ACID OXIDATION PRODUCTS. 6 Aug 63, 6p. 11 refs. JPRS: 20517; NASA N63-19751.
Order from OTS $0.50 63-31466

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 149, no. 4, p. 973-975.

DESCRIPTORS: *Radioprotective agents, Drugs, Radiation effects, Amino acids, *Oleic acids, Antioxidants, *Radiation sickness, Oxidation, Radiobiology.

Results indicate a similarity in the radiation and radiomimetic injury to living cells and provide a basis for speaking of the participation of the oxidation products of unsaturated fatty acids in the primary radiation reactions of injury in biological objects. The use of the erythrogram method under the influence of a radiomimetic may be employed as a simple biological model for the rapid preliminary evaluation and selection of radioprotectors.

Kandror, V. I.

CHANGES IN ADRENAL MEDULLARY FUNCTION FOLLOWING EXPOSURE TO INTERNAL IRRADIATION. [1963] [9]p. 15 refs. FASEB manuscript no. S 426-2.
Order from OTS or SLA $1.10 63-23039

Trans. of Meditsinskaya Radiologiya (USSR) 1962, v. 7, no. 4, p. 71-75.
Another trans. is available from OTS or SLA $3.60 in 62-25538, JPRS-14299, 29 June 62 [37]p.

DESCRIPTORS: *Adrenal glands, Adrenal cortex, *Adrenal medulla hormones, *Radiation effects, *Tracer studies, Corticosteroid agents, Epinephrine.

Experiments were conducted on 506 male rats to study the radiosensitivity of the chromaffin tissue and its reaction to internal irradiation. A solution of $Na^{24}{}_2CO_3$ was administered by mouth. Observations were made at varying intervals during 25 days after administration of the isotope. The index of adrenal medullary function was the content of catecholamines in the gland tissues, determined by the adsorption-colorimetric method. One hour after administration of 250 μc/g of Na^{24}, the pressor amine content of the adrenals began to rise, reaching its maximum during the second day. On the third day, the hormone content began to fall sharply, reaching 90-100/g/grams of weight of the gland. This drop was not found in any of the control animals. The initial reaction of the adrenal medulla to small doses of internal irradiation is stimulation of the synthetic processes in the gland. Subsequent reactions are determined by the absorbed dose of irradiation. Changes in the adrenal cortex develop later and after larger doses than the medullary changes. The interaction between the sympathetico-adrenal and the hypophyso-adrenocortical system indicate that adrenalin may stimulate the secretion of ACTH by the anterior lobe of the hypophysis.

Kuzin, A. M.
THE INITIAL MECHANISMS OF THE BIOLOGICAL EFFECTS OF IONIZING RADIATION (O Nachal'nykh Mekhanizmakh Biologicheskogo Deistviya Ioniziruyushchikh Izluchenii) tr. by Lydia Venters. July 62 [13]p. 55 refs.
Order from OTS or SLA $1.60 AEC-tr-5215

Trans. of mono. (rept.) submitted to the United Nations Scientific Committee on the Effects of Atomic Radiation (Fundamental Radiobiology) n.p. [28 Aug 61 A/AC. 82/G/L.639, 13p.].

DESCRIPTORS: *Radiation effects, *Cells (Biology), Proteins, Radiation injuries, Microstructure, Enzymes.

Litvinov, N. N.
DYNAMICS OF THE DEVELOPMENT OF BONE SARCOMAS ORIGINATING UNDER THE INFLUENCE OF RADIOACTIVE SUBSTANCE, tr. by Zelda D. Knowles. 7 Aug 57, 17p. 17 refs.
Order from OTS or SLA $1.60 63-19459

Trans. of Voprosy Onkologii (USSR) 1956 [v. 2] no. 3, p. 285-294.
Another trans. is available from SLA as R-01916.

DESCRIPTORS: *Cancer, *Bone, *Radiation effects, Radioactive isotopes, Strontium, Cells (Biology), Tissues (Biology), Regeneration.

In rats into which radioactive strontium has been introduced intraperitoneally (Sr^{90}) in a dose of 0.4 mc./kg., profound changes of the activity of the bone tissue develop. In a number of cases these terminate in malignant growth. These changes consist of a progressive disturbance of bone development with formation immature and atypical bone structures. Within 2-3 months after introduction of the substance, disturbances of the processes of osteogenesis appear, mainly in the production of more incomplete fibrous and amorphous structures. Later the processes of pathological bone formation begin to be attended by an ever greater reaction of the cellular elements. At the end of 4 months intensification of the processes of reconstruction of bone substance is observed with disturbance of normal relations between resorption and regeneration of bone on the part of the formation of immature bone tissue and the appearance of accumulations of little-differentiated osteogenic elements. In the 5th month at the places of the most intensive bone formation areas begin to appear that consist of atypical polymorphic osteogenic cells and immature bone tissue. The structure of these parts gradually approximates tumor tissue. At the end of the 5th month, the growths of immature, atypical bone tissue acquire the character of a tumor that fills the cavity of the bone marrow of the metaphysis and penetrates through the disturbed cortical substance to the outside of the bone.

Nuzhdin, N. I., ed.
STUDIES IN IONIZING AND X-RAY IRRADIATION: SELECTED PARTS. 30 July 63, 56p. 98 refs. JPRS: 20421.
Order from OTS $1.50 63-31418

Trans. of mono. Deistvie Ioniziruyushchikh Izluchenii na Organizm (Effect of Ionizing Radiations upon the Organism) Moscow, 1962, p. 162-166, 173-197, 207.

DESCRIPTORS: *Radiation effects, *X rays, *Radioprotective agents, Survival, Mice, Adrenal glands, *Body weight.

Contents:
Transmission of the distant effect of ionizing radiation, by O. P. Domareva
The effect of protective substances on the survival and changes in internal organs of mice with different radiosensitivity subjected to X-ray irradiation, by N. I. Nuzhdin and I. A. Nechaev
Table of contents.

Peredelskii, A. A.
FONDEMENTS ET PROBLEMES DE RADIOECOLOGIE (Fundamentals and Problems of Radioecology) tr. by B. Vinogradoff. 6 June 61 [34]p. 95 refs. CEA Trans. no. R 1369 (text in French).
Order from OTS or SLA $3.60 63-23541

Trans. in French of Zhur[nal] Obshchei Biol[ogii] (USSR) 1957, v. 18, no. 1, p. 17-30.

DESCRIPTORS: Radiobiology, *Ecology, *Biological environment, *Radiological contamination, Radiation effects, Bibliographies.

Pinchuk, L. B.
ON THE POSSIBILITY OF THE USE OF SODIUM LACTATE IN RADIATION SICKNESS (ANNOTATION). 2 Aug 63, 1p. JPRS: 20469; NASA N63-19818.
Order from OTS $0.50 63-31439

Trans. of #Problemy Gematologii i Perelivaniya [Krovi] (USSR) 1963, v. 8, no. 6, p. 54.

DESCRIPTORS: *Radioprotective agents, Drugs, Sodium compounds, *Lactates, *Radiation sickness.

Three groups of rabbits were studied: with a total single radiation exposure of 1250g, with a total single radiation exposure of 800g, and with fractionated prolonged irradiation (100g each 5 times in the course of 2 weeks). In the last case experiments were conducted not only on rabbits but also rats. Daily intravenously injections were given to some of tha animals with a 10% solution of sodium lactate, 10 ml/kg each. Intravenous administrations of this kind proved to be ineffective in acute radiation sickness. The longevity of the animals irradiated with a dose of 1250 g was reduced almost 3 times in comparison with the controls. Some increase in longevity was noted in the rabbits which had been irradiated with a dose of 800 g, but survival in this case was not observed, and the weight of the experimental animals and some of the other indices fell more abruptly than in the controls. The administration of sodium lactate for therapeutic purpose proved to be inexpedient in fractionated irradiation also, for the experimental animals died during the same period as the controls. Thus, the administration of a 10% solution of sodium lactate has no therapeutic effect in radiation sickness. (Report quoted in its entirety)

Shakhidhanyan, L. G. and others.
DISTRIBUTION OF RADIOACTIVE CAESIUM AND STRONTIUM IN HUMAN AND ANIMAL ORGANS. [1963] 7p.
Order from OTS or SLA $1.10 63-16454

Partial trans. (tables only) of Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 3, p. 442-448.

DESCRIPTORS: *Labeled substances, Radioactivity, Animals, Man, *Cesium, *Strontium.

Skvortsova, R. I.
RESPIRATORY METABOLISM OF CARBOHYDRATE AND PHOSPHATE IN CEREBRAL AND HEPATIC TISSUE UNDER NORMAL CONDITIONS AND FOLLOWING EXPOSURE TO X-RAYS. [1963] 13p. 8 refs.
Order from OTS or SLA $1.60 63-16462

Trans. of Voprosy Med[itsinskoi] Khimii (USSR) 1960, v. 6, no. 5, p. 475-479.
Another trans. is available from OTS or SLA $3.60 in 61-11799, JPRS-4345, 19 Jan 61, 37p.

DESCRIPTORS: *Respiration, *Metabolism, *Carbohydrates, *Phosphates, Brain, Liver, Tissues (Biology), *Radiation effects, X-rays.

During the second day of local irradiation of the cerebellum with a dose of 9000 r respiratory and carbohydrate-phosphorus metabolism is greatly inhibited. In the tissue of the irradiated cerebellum the formation of fructoso-1.6-diphosphate is markedly inhibited. The formation of other phosphorus ethers, such as phosphglycerinic acid, glycerophosphate, glucoso-1-phosphate, glucoso-6-phosphate, fructoso-6-phosphate, is also depressed, though to a considerably less degree. In the presence of monobromoacetic acid the carbohydrate-phosphorus metabolism in the cerebellar tissue the formation of fructoso-diphosphate is greatly impaired, and under these conditions the inhibition of the formation of this compound under irradiation is very sharp. In the liver tissue, under local irradiation of the cerebellum with a dose of 9000 r, an insignificant amount of impairment in carbohydrate-phosphate metabolism is observed the second day after irradiation. Under irradiation of the whole head with a dose of 4000 r, and also under total irradiation with a dose of 1000 r there is a fairly strong inhibition of the forming of mineral phosphates noticeable on the second to fifth day after irradiation. In the liver, as well as in cerebellar tissue, it is the formation of fructoso-1.6-phosphate that is mainly impaired. (Author)

Tuchnyakova, M. M.
DIMINUTION DE L'EFFET NUISIBLE DES RAYONS GAMMA DU ^{60}Co SOUS L'INFLUENCE DE L'ACIDE GIBBERELLIQUE ET DES SELS POTASSIQUES (Diminution of the Harmful Effects of Co^{60} Gamma Radiation Under the Influence of Gibberellic Acid and Potassium Salts) tr. by Lasnier-Lachaise. 28 Apr 62 [14]p. 4 refs. CEA-tr-R1632 (text in French).
Order from OTS or SLA $1.60 63-23490

Trans. in French of [Akademiya Nauk] SSSR. Inst[itut] Genet[iki]. Trudy, 1961, v. 28, p. 158-162.

DESCRIPTORS: *Radiation effects, *Plants (Botany), *Potassium compounds, *Growth substances, Cobalt, Gamma rays, Reproduction, Salts.

De hautes doses de rayons gamma (15 000 à 30 000 r) agissent sur des graines d'avoine à l'état de vie ralentie, provoquant la mort des semences pendant la période de germination. Le pourcentage de destruction est d'autant plus élevé que la dose d'irradiation est forte. De même les plantes qui poussent sont freinées dans leur végétation et leur croissance, et, finalement, leur productivité peut être réduite au point d'atteindre la stérilité complète. Le traitement des semences d'avoine irradiées pan des solutions d'acide gibbérellique et de sels de potassium aboutissent a une réduction sensible de l'effet nuisible de l'irradiation gamma. (Author)

Surgery

Burakovskii, V. I., Murav'ev, M. V. and others.
TRIAD OF FALLOT (CLINICAL PICTURE, DIAGNOSIS, AND SURGICAL TREATMENT). 6 Aug 63, 9p. 19 refs. JPRS: 20521.
Order from OTS $0.50 63-31469

Trans. of Grudnaya Khirurgiya (USSR) 1963, v. 5, no. 3, p. 3-8.

DESCRIPTORS: *Heart, *Anomalies, *Arteries, Diagnosis, Diseases, Surgery.

Giraldes, J.
ABOUT THE OSSEOUS SUTURE OF THE PREMAXILLARY TUBERCLE IN THE SURGERY OF THE HARELIP (De la Suture Osseuse du Tubercle Prémaxillaire dans l'Opération du Bec-de-Lièvre Compliqué). [1963] 4p.
Order from SLA $1.10 63-18042

Trans. of Bull[etin] Gén[éral] de Thérap[eutique Médicale, Chirurgicale, Obstétricale et Pharmaceutique] (France) 1869, v. 77, p. 303-306.

DESCRIPTORS: Bone, *Face, Surgery, *Anomalies, Mouth, Sutures, *Plastic surgery.

Gorbatsevich, A. B. and Shustin, V. A.
ON THE DIAGNOSIS AND SURGICAL TREATMENT OF CHRONIC SUBDURAL SACCULAR HEMATOMAS. [1963] 6p.
Order from OTS or SLA $1.10 63-16479

Trans. of Voprosy Neirokhirugii (USSR) 1961 [v. 25] no. 5, p. 21-23.

DESCRIPTORS: Diagnosis, Surgery, *Blood coagulation, *Brain, Therapy, *Neurology.

This report contains an analysis of 6 typical clinical cases of subdural hematomas. Anamnesis of 5 of these cases indicated a skull injury.

Gundersen, Terje.
ATRESIA OF THE EXTERNAL ACOUSTIC MEATUS FOLLOWING ECZEMATOUS OTITIS EXTERNA (Atresia Meatus Acusticus Externus als Folge von Otitis Externa Eczematosa). [1963] 3p.
Order from SLA $1.10 63-18036

Trans. of Acta Oto-Laryngologica (Sweden) 1960, v. 52, p. 473-476.

DESCRIPTORS: *Obstruction (Physiology), *Ear, *Otorhinolaryngology, Surgery.

A description is given of 3 cases of eczematous external otitis with ensuing a tresia of the auditory canal. The otoscopic findings may be confusing, if there is no aural discharge and if the atresia is located in the innermost portions. It is emphasied that a mastoid ectomy has to be carried out, during which the posterior wall of the auditory canal is ablated. The separation of the fibrous layer covering the tympanic membrane from the latter is rather simple. A point is made of the fact, that the operative field following mastoidectomy has to be covered carefully with a skin graft. (Author)

Lyass, F. M.
APPLICATION OF THE METHOD OF ISOTOPIC MYELOGRAPHY IN THE NEUROSURGICAL CLINIC. 2 Aug 63, 52p. JPRS: 20478.
Order from OTS $1.50 63-31443

Trans. of mono. Izotopnaya Mielografiya (Isotopic Myelography) Moscow, 1962, chap. 3, p. 72-123, 127-128.

DESCRIPTORS: *Diagnosis, Medical examination, *Spinal cord, *Neoplasms, *Neurology, Isotopes, Surgery.

Contents:
Application of the method of isotopic myelography in the neurosurgical clinic
Comparison of the data of the clinical examination and isotopic myelography
Comparison of the data of the isotopic myelography and other methods of examination
The isotopic method in the early diagnosis of spinal cord tumors
The isotopic method in the diagnosis of recurrence of a spinal cord tumor
Conculsion
Table of contents.

Novikov, A. N., Garin, N. D., and Rodionov, V. V.
ON THE PROBLEM OF LOBECTOMY IN PULMONARY CARCINOMA. 2 Aug 63, 7p. 48 refs. JPRS: 20484.
Order from OTS $0.50 63-31444

Trans. of Grudnaya Khirurgiya (USSR) 1963, v. 5, no. 3, p. 54-57.

DESCRIPTORS: *Lungs, Excision, Surgery, *Cancer.

The combined statistical data of Soviet and foreign authors indicate that lobectomy in carcinoma of the lung is used in 20.6 percent of resections. In the State Oncologic Institute imeni P. A. Gertsen, lobectomy was carried out in 21 patients, which constitutes 11.7 percent of resections between 1956-1961. In the last 2 years, the percentage of lobectomies in this clinic has increased from 3.5 to 18.9 percent. The combined statistical data of foreign authors testify to the fact that lobectomy reduces postoperative mortality to less than 1/2 as compared with pneumonectomy (respectively, 8.9 percent and 17.8 percent). In the surgical clinic of the institute, 3 out of 21 patients undergoing lobectomy for carcinoma of the lung died during the postoperative period. As shown by the combined data of many authors, lobectomy, when the patients are properly selected, may give a better long term results than pneumonectomy, which enables it to be classified as one of the radical, oncologically justified operations in carcinoma of the lung. (Author)

Zoology

PROCEEDINGS OF THE CONFERENCE ON FISH DISEASES [LENINGRAD, 22-27 MAR 57] (Trudy Soveshchaniya po Boleznyam Ryb) tr. by A. Mercado. 1963, 236p. 209 refs. PL-480 Int.
Order from OTS $2.50 61-31058

Trans. of Akademiya Nauk SSSR. Ikhtiologicheskaya Komissiya. Trudy Soveshchanii, 1959, no. 9.
##Another trans. of p. 192-197 is available from LC or SLA mi$2.40, ph$3.30 as 61-15835, 7 Feb 61, 16p.

DESCRIPTORS: *Fishes, Diseases, Pathology, *Communicable diseases, Diagnosis, Epidemiology, *Virus diseases, *Cyprinidae, *Coccidiosis, *Parasites, Dams, Reproduction, Food, *Liver, *Salmonidae, *Anemias, *Blood cells, *Eggs, Volga River, Caspian Sea, Ecology, *Mites, *Acclimatization, *Trematodes, *Platyhelminths, *Smallpox virus, Ecology, *Zoonosis, Baltic sea, Marine biology.

Contents:
From the editorial board: a list of reports (at the conference) but not published in the collection
On the work of the Conference on Fish Diseases, by E. N. Pavlovskii
V. A. Dogiel and his role in the study of fish pathology in the U.S.S.R., by B. E. Bykhovskii
Results and aims of the study of infectious diseases, by G. D. Goncharov
New data on the in vivo diagnosis of fish diseases, by E. M. Lyaiman
New curative methods in the control of fish diseases, by O. N. Bauer and A. V. Uspenskaya
The epizootological state of fish in the pond fisheries of the Russian Soviet Federative Socialist Republic, by A. I. Kanaev and E. M. Lyaiman
Viral rubella of fish in the U.S.S.R. and abroad, by G. D. Goncharov
Rubella of carp and measures for its control in fish farms in the western regions of the Ukrainian S.S.R., by V. M. Ivasik and P. E. Roi
The liquidation of carp rubella by estivation of ponds in the L'vov trust fish farms, by I. M. Karpenko
Coccidiosis of carp in the pond fisheries of the Ukrainian S.S.R., by I. I. Bespalyi
The problem of "mixed" diseases of carp in the fish farms of the Ukrainian S.S.R., by M. A. Malevitskaya

Sanguincolosis and measures for its control in the pond fisheries of the Belorussian S.S.R., by A. S. Chechina
Methods of breeding carp and the epizootological evaluation of the Fry-of-the-Year, by V. S. Prosyanyi
Natural water reservoires as a source of parasitic infections of pond fish, by O. P. Kulakovskaya
On the lipoid degeneration of liver of rainbow trout as a result of the use of artificial feeds, by K. A. Faktorovich
Clinical aspects of troup anemia in the Chernaya Rechka Region, by O. D. Sadkovskaya
The effect of rearing conditions upon the blood counts of young rainbow trout, by L. I. Lebedeva
Diseases of fish eggs and fry in the fish farms of the Rosglavgosrybvod, by A. Yu. Shpolyanskaya
Diseases of artificially reared Salmo salar fry, by O. N. Bauer and Yu. A. Strelkov
Parasitic diseases of Salmo trutta caspius fry in hatcheries and measures for their control, by N. L. Nechaeva
Data on the etiology and pathogenesis of the white spot disease of salmon larvae, by A. D. Shishanina
Parasitofauna of Lucioperca lucioperca fry from the Volga Delta and northern Caspian Sea, by T. V. Astakhova
Parasites and diseases of the Amur fishes during acclimatization in pond fisheries of the R.S.F.S.R., by A. Kh. Akhmerov
Diseases of Coregonus and Amur fish during breeding in the pond fisheries of the Ukrainian S.S.R., by A. M. Lupokhina
Causative agents of the commom parasitic diseases of fish in the Rybinsk reservoir, by N. A. Izyumova
The effect of Volga River watershed management on the parasitic fauna of fish, by A. F. Kosheva
Dynamics of the parasitic fauna of fish of the Tsimlyanskii, Reservoir during the first 5 years of its existence, by K. V. Smirnova
Parasitofauna of bream in the reservoirs of the Volga-Don Canal im. V. I. Lenin, by N. A. Kosareva
Parasitic fauna of fish in the reservoirs of Central Kazakhstan, by E. G. Sidorov
Fish ligulosis and its control, by M. N. Dubinina
Epizootic of schools of commerical Volga fish in the area of the future Stalingrad reservoir, by E. A. Bogdanova
The status and tasks of the study of fish diseases in the inland reservoirs of the Ukrainian S.S.R., by A. P. Markevitch and A. K. Shcherbina
Cases of mass diseases and death of fish in the lower reaches of the Volga Delta, by Yu. V. Kurochkin and others
On the investigation of carp smallpox, by Yu. V. Kurochkin and K. V. Gorbunov
Parasitofauna of the most important commerical fish of the Azov Limans, by V. P. Kamenev
Parasites of fish in natural fresh-water reservoirs of the Lithuanian S.S.R., by R. A. Krotas
A Baikal neondemic parasite in the Lena River basin, by E. Ya. Koryakov
Mites parasitizing fish, by V. B. Dubinin
Results and perspectives of investigations by Soviet parasitologists on fish parasites in the seas of the U.S.S.R., by Yu. I. Polyanskii and B. E. Bykhovskii
Parasites of fish in the eastern part of the Baltic Sea, by S. S. Shul'man
Fish parasites in the seas of the Far East, by E. V. Zhukov and Yu. Strelkov
##Parasitofauna and parasitic diseases of fish in the Aral Sea, by S. O. Osmanov
Trematode larvae in fish of the U.S.S.R., by I. E. Bykhovskaya-Pavlovskaya and G. K. Petrushevskii
Data on parasites of fish and man in the Volga flood plain of the Saratov district, by T. P. Boeva
Modern concepts on the epidemiology and epizootology of opisthorchosis (Vinogradov's disease) by N. N. Plotnikov
Results of investigations into the biology of diphyllobothrium in the area of Lake Baikal and the role of fish in its spread, by A. M. Parukhin and others.

Bogdanova, E. A.
PARASITIC DISEASES OF YOUNG PACIFIC SALMON IN FISH HATCHERIES OF THE FAR EAST (Parazitarnye Zabolevaniya Molodi Tikhookeanskikh Lososei na Rybovodnykh Zavodakh Dalnevo Vostoka) tr. by W. E. Ricker. 1962 [5p] 2refs FRBC Trans. Series no. 391.
Order from NRCC NRCC C-4196

Trans. of Gos[udarstvennyi] N[auchno-Issledovatel'skii] I[nstitut] O[zernogo i] R[echnogo] Kh[ozyaistva]. Nauchno-Tekhnicheskii Byulleten' (USSR) 1960, no. 11, p. 49-52.

DESCRIPTORS: *Parasites, *Salmonidae, Asia, Fishes, Marine biology, Diseases,

Maslov, A. V.
DATA ON THE ECOLOGY OF THE DEVELOPMENT OF BLOODSUCKING MOSQUITOES. REPT. 3. SURVIVAL IN THE COURSE OF DEVELOPMENT OF MOSQUITOES IN THE CULISETA GROUP (Materialy po Ekologii Razvitya Krovososyshchikh u Komarov. Soobshchenie 3. Vyzhivaemost' v Khode Razvitya u Komarov Gruppy Culiseta) tr. by Z. D. Knowles. 10 June 63, 8p. 6 refs, NIH no. 6-11-63.
Order from OTS or SLA $1.10 63-23132

Trans. of Zoologicheskii Zhurnal (USSR) 1961, v. 40, no. 4, p. 616-619.

DESCRIPTORS: *Ecology, Growth, Viability, *Morphology, *Culicidae, Insects, Temperature.

Optimal thermal conditions for the survival of three mosquito species of the culiseta group are experimentally stated. For Culiseta bergrothi Edw. of Khabarovsk they turned out to be within the range from 12 to 18°, for C. alaskaensis indica Edw. of the Syr-Daria they lie within the range of 20-25° and for Allotheobaldia longiareolata Macq. about 30°. It is found for C. bergrothi of Khabarovsk that a temperature of 6° which lies lower than the optimum of larval survival determines at the same time better survival of adult mosquitoes emerging from such larvae. Induced starvation as well as other unfavorable conditions lead to a sharp survival decrease. (Author)

Nowicki, Swiatoslaw.
ON THE GENERA OPHIONEURUS RATZ. AND LATHROMERELLA GIRAULT (HYMENOPTERA, CHALCIDOIDEA, TRICHOGRAMMATIDAE (O Rodzajach Ophioneurus Ratz. i Lathromerella Girault. Hymenoptera, Chalcidoidea, Trichogrammatidae) tr. by A. Kossowska. 1963 [8]p. 4 refs. PL-480 Agr.
Order from OTS $0.50 61-31260

Trans. of Polskie Pismo Entomologiczne, 1927, v. 6, no. 1/2, p. 100-102.

DESCRIPTORS: *Taxonomy, Insects, *Hymenoptera, Arthropods.

Sushkina, A. P.
RATE OF FAT CONSUMPTION AT DIFFERENT TEMPERATURES AND LIFE CYCLES IN CALANUS FINMARCHICUS (GUNN) AND CALANUS GLACIALIS (JASCHN). 6 Aug 63, 14p. 19 refs. JPRS: 20502.
Order from OTS $0.50 63-31457

Trans. of Zoologicheskii Zhurnal (USSR) 1962, v. 41, no. 7, p. 1004-1012.

DESCRIPTORS: Fats, *Marine biology, *Crustacea, *Temperature, *Rhythm (Biology), Metabolism, Plankton.

Yurgenson, P. B.
ROLE OF THE TROUBLE FACTOR IN THE ECOLOGY OF WILD ANIMALS AND BIRDS. 6 Aug 63, 7p. 12 refs. JPRS: 20498.
Order from OTS $0.50 63-31454

Trans. of Zoologicheskii Zhurnal (USSR) 1962, v. 41, no. 7, p. 1056-1060.

DESCRIPTORS: *Mammals, *Birds, *Ecology, Man, Fear.

The trouble factor is defined as "...the trouble which man causes wild animals, frightening them, appearing in their habitats...". The general ecological aspects of this factor are discussed as pertains to game birds and mammals, with a detailed study given for the black grouse (Lyrurus tetrix).

Zhadin, V. I.
TASKS OF HYDROBIOLOGY IN THE FIELD OF DEVELOPMENT OF FISH ECONOMY IN THE INTERNAL RESERVOIRS (Zadachi Gidrobiologii v Oblasti Razvitiya Rybnogo Khozyaistva vo Vnutrennikh Vodoemakh). 27 Feb 63, 27p. 7 refs. Trans. A-1388
Order from OTS or SLA $2.60 63-1593(

Trans. of Voprosy Ikhtiologii (USSR) 1955, no. 3, p. 21-31.

DESCRIPTORS: Marine biology, *Fishes, Economics, *Dams, Ecology, Scientific research, *Lakes, *Irrigation systems.

The problems of increasing and maintaining fish stocks as part of the economic development in Russian waters and particularly internal reservoirs is surveyed. The problems and methods of applying practical measures are outlined under the following topics: (1) Fishery reclamation of reservoirs; (2) Reproduction of stocks of migratory and semi-migratory fish; (3) Pond farms; (4) Fish culture in the system of reservoirs of irrigated farming, (5) Fishery reconstruction of the inner seas; (6) Utilization of fish resources of rivers and lakes; (7) Non-fish products of internal waters. Suggestions are made for the improvement of hydrological research and an increase in fish ecomony which are based on the utilization of methods and specialists in other fields such as physiology microbiology and chemistry.

CHEMISTRY

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNAL NO. 249 (CHEMISTRY SERIES). 26 July 63, 33p. JPRS: 20349.
Order from OTS $1.00 63-31381

Consists of abstracts of articles from the scientific and technical journals of East Germany and Poland.

DESCRIPTORS: *Abstracts, Bibliographies, *Chemistry, *Crystals, *Spectroscopy, Inorganic substances, Chemical reactions, *Complex compounds, *Metalorganic compounds, *Catalysis, Thermochemistry, *Physical chemistry, *Phase studies, Chromatography, *Electrochemistry, Reaction kinetics, Synthesis (Chemistry), Alkaloids, Molecular structure, Coal, Polymers.

DIRECT REDUCTION METHOD FOR METALLIC OXIDE WITH CARBON MONOXIDE OR A REDUCED GAS WHICH CONTAINS THIS AS PRINCIPAL CONSTITUENT. 18 June 63, 9p. 11402/62 Japan.
Order from INT $27.00

Trans. of Japanese patent 11402/62 by Yawata Seitetsu Co. Ltd., filed 10 Aug 60.

DESCRIPTORS: *Metals, *Oxides, Reduction (Chemistry), Carbon compounds, Monoxides.

MANUFACTURING METHOD FOR PLATINUM CATALYST FOR THE METHANOL OXIDATION. 9 July 63, 3p. 8959/58 Japan.
Order from INT $9.00

Trans. of Japanese patent 8959/58 by Asakusa-Misujicho, filed 28 June 55.

DESCRIPTORS: *Methanols, *Oxidation, Manufacturing methods, *Platinum catalysts.

USSR SCIENTIFIC ABSTRACTS: CHEMISTRY AND METALLURGY NO. 1. 16 Aug 63, 63p. JPRS: 20669.
Order from OTS $1.75 63-31543

Consists of abstracts of articles from USSR scientific and technical journals.

DESCRIPTORS: *Abstracts, *Chemistry, *Metallurgy, Alkaloids, Electrochemistry, Explosions, Alloys, Mechanical properties, Crystal structure, Brazing, Welding, Corrosion, Explosive forming, Phase studies, Patents, Powder metallurgy, Cladding, Titanium, Titanium alloys, Lasers, Heating, Steel, Rhenium, Liquid metals, Rare earth elements.

Contents:

I. Chemistry
Alkaloids
Electrochemistry
Explosion phenomena
Growth stimulators
Medicinal chemistry
Organophosphorus compounds
II. Metallurgy
Alloy structure and properties
Brazing and welding
Corrosion
Explosive forming
Metallography and phase studies
Patents
Powder metallurgy
Rolling and cladding technology
Titanium and its alloys
Miscellaneous

Emel'yanov, Yu. M.
ALL-UNION CONFERENCE ON OZONE OF THE HIGHER EDUCATIONAL INSTITUTIONS (NO. 1) 10-14 MAY [60] MOSCOW. 6 Oct 61 [9]p. JPRS: 10412.
Order from OTS or SLA $1.10 61-28630

Trans. of Moscow U. Vestnik. [Seriya 2: Khimiya] (USSR) 1961 [v. 16] no. 1, p. 77-80.

DESCRIPTORS: *Conferences, *Ozone, Synthesis (Chemistry), Chemical properties, Industrial production, Chemical reactions.

Manneck, H.
FATTY ACID-ALKYLOLAMIDES. [1963] 7p (refs. omitted)
Available from SLA on loan 63-16553

Trans. of Seifen-Öle-Fette-Wachse (West Germany) 1962, v. 88, no. 25, p. 853-855.

DESCRIPTORS: *Fatty acids, *Amides, Alcohols, Synthesis (Chemistry), *Foams, *Cleaning compounds.

A survey of the literature.

Sumarokova, T. N.
EUTECTIC FUSION DIAGRAMS OF BINARY SYSTEMS, COMMUNICATION 1 (Ob Evtekticheskikh Diagrammakh Plavkosti Dvoinykh Sistem, Soobshchenie I). May 63 [18]p. 11 refs. RTS 2204.
Order from OTS or SLA $1.60 63-23245

Trans. of Akad[emiya] Nauk Kaz[akhskoi] SSR [Alma Ata] Izvest[iya]. Ser[iya] Khim[icheskaya] 1957, no. 1, p. 3-11.

DESCRIPTORS: Fused materials, *Eutectics, Heat of fusion, *Molecular weight, Mathematical analysis, Alloys, Solutions, Liquid metals.

The applicability of the equation of Schröder to real systems was checked. It was demonstrated by plotting Schröder's logarithmic functions, and by calculating heats of fusion (and comparison with literature data) and molecular weights that the equation of Schröder is complied with at all concentrations. A liquidus curve was constructed in the reduced (dimensionless) co-ordinates $(1 - \Theta)/K\Theta$ versus X, where $\Theta = T/T_0$, and $K = RT_0/Q$, and X is the molar fraction. When using this construction it was found that all experimental points relating to the most diverse substances lie on the same curve. It follows from above that many real systems formed by substances belonging to various groups (organic substances, metals and salts) obey the laws of ideal solutions. Attention was drawn to the fact that, for ideal binary systems which contain one component in common, the liquidus curve of this component is the locus of the eutectic points. It was demonstrated that molecular weights can be determined from the data of thermal analysis and the equation of Schröder. (Author)

Varlamoy, M. L., Krichevskaya, E. L. and others
AGGLOMERATION PAR VIBRATIONS SONORES DU BROUILLARD CONTENANT DES DÉRIVES DU FLUORE (Sonic Agglomeration of Fogs Containing Compounds of Fluorine). 14p. 28 refs. FR-2317.
Order from OTS, ETC or CNRS $0.80 62-26956

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1961, v. 34 [no. 1] p. 78-84.

DESCRIPTORS: *Aerosols, *Fluorides, Sound, Purification, Acoustics, Fog.

Zhavoronkov, N. M., Babkov, S. I. and others.
PREPARATION ET UTILISATION DES ISOTOPES STABLES (Poluchenie i Primenenie Stabil'nykh Izotopov) (Preparation and Utilization of Stable Isotopes) tr. by Masour. 18 June 61 [78]p. (foreign text included) 240 refs. CEA Trans. no. R 1361 (text in French).
Order from OTS or SLA $7.60 63-23539

Trans. in French of Khim[icheskaya] Nauk[a] i Promyshl[ennost'] (USSR) 1959, v. 4 [no. 4] p. 487-498.

DESCRIPTORS: *Stable isotopes, Preparation, *Isotope separation, Magnetic separation, Centrifuge separation, Thermal diffusion separation, Gaseous diffusion separation, Electrodialysis, Distillation, Ion exchange, Gas chromatography, Absorption, Crystallization, Electrolysis, Photochemical reactions, Analysis, *Tracer studies, *Deuterium, Heavy water, *Lithium, Boron, Nitrogen.

Analytical Chemistry

Asmaev, P. G. and Mokhnachev, I. G.
THE CHANGE IN BOUND WATER-SOLUBLE CARBOHYDRATES OF TOBACCO DURING ITS TREATMENT. [1963] 14p. 7 refs.
Order from OTS or SLA $1.60 63-16920

Trans. of Izvest[iya] Vysshikh Uchebnykh Zavedenii. Pishchevaya Tekhnol[ogiya] (USSR) 1961, no. 2, p. 58-63.

DESCRIPTORS: *Carbohydrates, Processing, *Tobacco, Taste, Toxicity.

The change in different groups of bound carbohydrates determined by the phenol-H_2SO_4 method, during the treatment of tobacco, is investigated. Hypotheses are advanced on the composition of the bound hydrocarbons of each group. (Author)

Asmus, E., Höhne, K., and Kraetsch, J.
PHOTOMETRIC DETERMINATION OF NICOTINE AND PYRIDINE IN TOBACCO SMOKE. [1962] 8p. 7 refs.
Order from SLA $1.10 63-16945

Trans. of Z[eitschrift für] Anal[ytische] Chem[ie] (West Germany) 1962, v. 187, no. 1, p. 33-37.
Another trans. is available from K-H $10.00 as K-H 12144 [1962] 8p.

DESCRIPTORS: *Tobacco, Smokes, *Nicotine, *Pyridinees, Spectrographic analysis, Photometers, Cigarettes, Determination.

A new, very sensitive, optical method for the determination of nicotine and pyridine in tobacco smoke is described. (Author)

Borgwaldt, Heinr.
[THE GRASPING AND MEASUREMENT OF CERTAIN MECHANICAL PROPERTIES OF TOBACCO AND THEIR DEPENDENCE UPON EXTERNAL INFLUENCES]. [1963] 6p.
Order from SLA $1.10 63-16932
Trans. of unidentified article, n.p., n.d.

DESCRIPTORS: *Tobacco, Plants (Botany), Elasticity, Mechanical properties, Compressive properties, *Hygrometers, Moisture, Measurement, *Laboratory equipment.

The compressimeter is an apparatus with which quantity measurement figures can be measured about the mechanical properties of cigarettes and the changes of these properties by special treatments of the tobacco. The values are dependent on the humidity, the cut width, the loading and on the additions to the material to be measured. The apparatus is described and the measurement values defined. Differentiated dependences with respect to plasticizer additions, cigarette weight, humidity, etc., are obtained from the graphic representations. (Author)

Bouilloux, Georges.
USE OF FLUORESCEIN DERIVATIVES FOR THE ANALYSIS IN NON-AQUEOUS MEDIA. [1963] 7p. (figs. formulae omitted) 1 ref.
Order from SLA $1.10 63-16133

Trans. of Soc[iete] Chim[ique de] France. Bull[etin] 1954 [no. 11/12] p. 1347-1349.

DESCRIPTORS: *Fluorescent dyes, Diagnostic agents, Chemical analysis, Metals, *Colorimetric analysis.

The derivatives of fluorescein may be utilized under certain conditions for qualitative and colorimetric determination of most of the metals and of certain organic bases if these are present in traces only. The eosin solutions e.g. in liquid hydrocarbons are practically colorless when they are very dilute, the addition of a metal salt or of an amine dissolved in the same solvent brings about a red coloration and the precipitation of an eosinate. This reaction, which is very sensitive, allows to detect most of the metals and amines in a concentration of 1: 1 000 000 and often even at 1 : 10 000 000. It is a general, not a specific reaction, but may be used for a preliminary classification. (Author)

Cuzin, J. L. and others.
THE SMOKING MACHINES OF THE S.E.I.T.A. LABORATORIES. [1962] 13p.
Order from SLA $1.60 63-16969

Trans. of mono. Internat[ional] Sci[entific] Tob[acco] Cong[ress] (no. 2) Brussels [8-15 June] 58. [Proceedings] p. 513-520.
Another trans. is available from K-H $16.25 as K-H-11455-b [1962] 13p.

DESCRIPTORS: *Smokes, Cigarettes, *Tobacco, Chemical analysis, *Laboratory equipment.

This work gives an account of several smoking devices as utilized in the Research Laboratories of the S.E.I.T.A. (French Tobacco Monopoly). Attention is drawn on the inconvenience of the conventional machines (possible alteration of the chemical structure of the smoke, inadequacy in reproducing the actual behavior of the human smoker). A new design is proposed, based on the Wenusch principle (coagulation of the smoke aerosol by forcing it through a capillary tubing). (Author)

Denisov, P. V. and Belova, O. I.
ABOUT THE METHOD OF DETERMINATION OF CHLORIDES IN SUGAR SOLUTIONS. [1963] 14p. (figs. omitted) 3 refs.
Order from OTS or SLA $1.60 63-16352

Trans. of A[kademiya] N[auk] Kirgiz[skoi] SSR [Frunze]. Inst[itut] Khim[ii]. Trudy, 1956 [v. 7] p. 69-77.

DESCRIPTORS: *Chlorides, *Carbohydrates, Solutions, Titration, Chemical analysis.

Dikun, P. P.
SPECTROPHOTOMETRIC METHOD FOR APPROXIMATE DETERMINATION OF THE CONCENTRATION OF 3, 4-BENZOPYRENE IN A MIXTURE OF UNKNOWN COMPOSITION. [1963] 9p. 5 refs.
Order from OTS or SLA $1.10 63-18465

Trans. of Voprosy Onk[ologii] (USSR) 1955, v. 1, no. 4, p. 34-38.
Other translations are available from SLA as R-3768, 7p. and R-3181, 14p. and from KH $11.25 as K-H-6769-a. [1962] 9p.

DESCRIPTORS: *Carcinogenic agents, *Benzopyrenes, Mixtures, Fractionation, Chromatographic analysis, *Spectroscopy.

An approximate spectrophometric method is suggested for the determination of concentration of 3, 4-benzopyrene in benzopyrene fraction obtained by chromatographic fractionation. The method is sufficiently accurate so that it can be used in combination with chromatographic fractionation for the determination of the quantity of 3, 4-benzopyrene in products in which its presence was preliminarily shown by studying the fluorescence spectrum of the fractions, obtained by chromatographic fractionation. (Author)

Dörr, W.
ORGANIC ACIDS OF VIRGINIA TOBACCO AND THE DETECTION AND DETERMINATION OF GLYOXYLIC ACID AND α-KETOGLUTARIC ACID. [1963] 6p.
Order from SLA $1.10 63-16997

Summary trans. of Tabak-Forsch[ung] (West Germany) 1957, v. 21, p. 53-60.
A complete trans. is available from SLA $2.60 as 62-20234 [1962] 28p.

DESCRIPTORS: *Organic acids, *Tobacco, Detection, Glyoxylic acid, Glutaric acids, Quntitative analysis, Dehydration.

Eschle, K.
SPECTROPHOTOMETRIC DETERMINATION OF NICOTINE. [1962] 7p. 10 refs.
Order from SLA $1.10 63-16679

Trans. of Mitt[eilungen] aus dem Gebiete der Lebensmitteluntersuchungen und Hygiene (Switzerland) 1959, v. 50, p. 258-263.
Another trans. is available from K-H $8.75 as K-H 9929-a, 1962, 7p.

DESCRIPTORS: *Nicotine, Determination, Spectrophotometers.

Considerable differences were thus found between the three groups, which permit one to conclude that interfering substances are present. One must think in the first place here of pyridine. Within one group, however, one can count on the calibration with a surprisingly good reliability and therefore on the spectrophotometric method in general. Thus our results, which were obtained on a large number of mixed and unmixed, fermented and unfermented tobaccos, show maximal deviations of ± 5% at most from the calibration curve that was constructed. (Author)

Gedroits, K. K.
CHEMICAL ANALYSIS OF SOILS, tr. by B. Toker and J. Schmorak. 1963, 602p. refs. PL-480 Agr.
Order from OTS $6.00 63-11079

Trans. of mono. Khimicheskii Analiz Pochvy, Moscow, 1955 [615p.] (Gedroits, K. K., Izbrannye Sochineniya, v. 2).

DESCRIPTORS: *Soils, Chemical analysis, *Gas analysis, *Ion exchange, *Solvent extraction.

Contents:
Preparation of soil-material for investigation in the laboratory
Total analysis of the soil
The determination of lithium, rubidium, cesium, titanium, zirconium, and vanadium in the soil
Hydrochloric acid extract
Examination of the absorptive complex of the soil
Aqueous extracts
Determination of the actual acicity (alkalinity) of aqueous extracts, i. e., of hydrogen (hydroxyl) ion concentration in the extracts
Colorimetric and nephelometric analysis
The study of the soil solution

Grob, Kurt.
SOME EXPERIENCES WITH THE ANALYTICAL DETERMINATION OF QUALITY IN DOMESTIC SWISS TOBACCO. Paper presented at Coresta Symposium, Istanbul, Aug 60. [1963] 7p. 5 refs.
Order from SLA $1.10 63-16663

Trans. of Beitrage zur Tabakforschung [sic] 1961, no. 1, p. 15-18 [also pub. in Cooperation Centre for Scientific Research Relative to Tobacco. Bulletin d'Information (France) 1961, no. 1, p. 89-91].
Another trans. is available from SLA $1.10 as 63-14370 [1963] 5p.

DESCRIPTORS: *Tobacco, Chemical analysis, Acceptability, *Taste, Switzerland.

Hissink, M.
DEVELOPMENT OF A METHOD FOR DETERMINING SO_3 AND SO_2 IN (FLUE) GASES. [1963] 5p.
Order from ATS $6.00 ATS-94Q70DU

Trans. of Chem[isch] Weekblad (Netherlands) 1962, v. 58, p. 460-462.

DESCRIPTORS: Gas analysis, *Sulfur compounds, *Dioxides, *Oxides, Waste gases.

Hoffmann, D. and Wynder, E. L.
THE QUANTITATIVE DETERMINATION OF PHENOLS IN TOBACCO SMOKE. [1962] 10p. 12 refs.
Order from SLA $1.10 63-16911

Trans. of Beitrage zur Tabakorschung [sic] 1961, no. 3, p. 101-106.
Another trans. is available from K-H $1.10 as K-H 11411-4 [1962] 10p.

DESCRIPTORS: *Phenols, *Tobacco, *Smokes, Cigarettes, *Gas chromatography.

A quantitative method for the determination of individual phenols from the smoke of tobacco products is described. The method depends chiefly on a gas-chromatographic separation of phenol concentrates into individual phenols and their quantitative determination with the aid of the "marking technique." As liquid phase here one uses sebacic acid-di-n-octyl ester on "Gas Chrom P" as carrier material. Helium serves as carrier gas. The best separations were attained with a column temperature of 180° C. As an example the determination of the phenols in cigaret smoke is described in detail. (Author)

Hofman, Frank and Moldenhauer, Walter.
SEPARATION AND DETERMINATION OF THE TOBACCO ALKALOIDS NICOTINE AND NORNICOTINE. [1962] 20p. 23 refs.
Order from SLA $1.60 63-16131

Trans. of Inst[itut] fur Tabakforschung. Berichte (East Germany) 1961, v. 8, no. 1, p. 87-101.
Another trans. is available from K-H $25.00 as K-H 11711 [1962] 20p.

DESCRIPTORS: *Tobacco, *Alkaloids, *Nicotine, Chemical analysis, *Spectroscopy.

In the separation of nicotine from nornicotine in tobacco it was proposed that the alkaloids be separated via the nonvolatile nornicotine nitrosamine at pH 10 by means of steam and that the nicotine obtained by the separation as well as the sum of nicotine and nornicotine of the untreated sample are determined spectrophotometrically. The amounts of nicotine and nornicotine can be calculated from the formation of the differences between the extinction values. This method was checked with standard solutions of the pure alkaloids, with alkaloid dipicrates as well as with tobaccos with the addition of standard solutions and was found to be highly suitable for production tests. A method is presented. (Author)

Jurecek, M[iroslav].
SOME ANALYTICAL ASPECTS OF THE OXIDATION OF ORGANIC NITROGEN COMPOUNDS WITH CHROMIC ACID. 22 Apr 63 [18]p. 68 refs.
Order from SLA $1.60 63-18039

Trans. of Mikrochim[ica] Acta (Austria) 1962 [no. 5] p. 926-938.
Another trans. is available from SLA $1.60 as 63-10584, 25 Oct 62, 17p.

DESCRIPTORS: Organic compounds, Chemical analysis, *Nitrogen compounds, *Nitro radicals, *Nitroso radicals, *Amines, Oxidation, *Chromic acid, Carbon dioxide, Water, Ammonia, Nitrogen.

Kapetanovic, A. and Slijepcevic, Z.
COMPARATIVE EXAMINATION INTO CHEMICAL COMPOSITION OF TOBACCO AND ITS SMOKE. [1962] 15p. [refs. omitted].
Order from SLA $1.60 63-16686

Trans. of Duvan (Yugoslavia) 1957, v. 7, no. 5, p. 159-167.
Another trans. is available from K-H $18.75 as K-H 6769-b [1962] 15p.

DESCRIPTORS: Chemical analysis, *Tobacco, Cigarettes, *Smokes, *Tar, *Nicotine.

Kemula, W. and Kublik, Z.
APPLICATION OF THE HANGING MERCURY DROP TO THE DETERMINATION OF VERY SMALL QUANTITIES OF VARIOUS IONS. [1962] 10p. 8 refs.
Order from SLA $1.10 63-10254

Trans. of Analytica Chimica Acta (Netherlands) 1958, v. 18, p. 404-411.

DESCRIPTORS: Ions, Quantitative analysis, *Drops, *Mercury, Mercury alloys, *Electrodes.

Meszaros, Miomir.
SYMPOSIUM ON PROTEIN ANALYSIS (NO. 3) OCT 62, QUEDLINBURG, GERMANY. 19 Aug 63, 2p.
JPRS: 20692.
Order from OTS $0.50 63-31560

Trans. of Magyar Tudomanyos Akademia Kemiai [Tudomanyok] Osztalyanak Kozlemenyei (Hungary) 1963, v. 19, no. 4, p. 479-480.

DESCRIPTORS: *Conferences, *Proteins, Analysis, *Amino acids.

The symposium was devoted to problems of the determination of amino acids in protein hydrolysates. A brief review of activities is given.

Shakhnovskii, L. N.
"FREE" NICOTINE (O "Svobodnom" Nikotine). May 63 [9]p. 2 refs. RTS-2015.
Order from OTS or SLA $1.10 63-23222

Trans. of Tabak (USSR) 1953, v. 14, no. 3, p. 26-29.
Another trans. is available from K-H $15.60 as K-H 3160(1) [1962] 12p.

DESCRIPTORS: *Nicotine, Tobacco, Chemical analysis.

It is shown that the "free" nicotine, the presence of which in tobacco and makhorka has been determined by means of steam distillation from non-alkalized tobacco or by extraction from tobacco material with organic solvent, is the product of the hydrolysis of nicotine salts. It would, therefore, be more correct to call this substance not "free" nicotine, but hydrolysed nicotine. (Author)

Tsubota, H.
ANALYSIS OF NATURAL WATERS BY CATION EXCHANGERS: SEPARATION OF METAL IONS WITH FORMATE BUFFERS. [1963] 12p.
Order from ATS $13.65 ATS-63Q70J

Trans. of [Nihon] Kagaku Zasshi (Japan) 1960, v. 81, no. 6, p. 927-931.

DESCRIPTORS: *Water, Analysis, *Ion exchange resins, Metals, Ions, Separation, *Formates, *Buffers.

Vecera, Miroslav and Spevak, Antonin.
ORGANIC QUANTITATIVE ANALYSES. VII. A FAST COLORIMETRIC DETERMINATION OF SMALL QUANTITIES OF SULFUR IN ORGANIC AND INORGANIC MATERIALS. [1962] 13p.
Order from K-H $16.25 K-H-9019 b

Trans. of Chemicke Listy (Czechoslovakia) 1956, v. 50 p. 308ff.

DESCRIPTORS: Organic compounds, Quantitative analysis, *Sulfur, *Inorganic compounds, Colorimetric analysis.

Zimmerman, M.
PHOTOMETRIC PHOSPHATE DETERMINATION (Zur Photometrischen Phosphorbestimmung). [1963] 7p. (foreign text included) 2 refs.
Order from SLA $1.10 63-16770

Trans. of Angew[andte] Chemie (West Germany) 1950, v. 62, no. 12, p. 291-292.

DESCRIPTORS: *Phosphates, Chemical analysis, Spectrophotometers, Iron, Sulfites.

Inorganic Chemistry

METHOD FOR MANUFACTURE OF ISOMETRIC-SYSTEM BORO-NITRIDE. 18 June 63. 14/63 Japan.
Order from INT $88.50

Trans. of Japanese patent 14/63 by General Electric Co., USA, filed 9 Sep 59.

DESCRIPTORS: *Boron compounds, *Nitrides, Manufacturing methods.

PROCESS FOR THE PRODUCTION OF NITRATE-SULPHATE OF AMMONIUM SUITABLE FOR STORAGE. [1963] 2p.
Order from OTS or SLA $1.10 63-18138

Trans. of French patent 703,555, gr. 14, cl. 1, filed 10 Oct 30, issued 9 Feb 31, pub. 2 May 31, by I. G. Farbenindustrie Aktiengesellschaft, Germany (pat. appl. filed 4 Sep 30, Germany).

DESCRIPTORS: *Ammonium compounds, *Nitrates, *Sulfates, Production, Stability, *Storage, Additives, *Urea, *Magnesium compounds, Salts.

Boer, J. H. de, Clausing, P., and Zecher, G.
A SIMPLE METHOD FOR THE MANUFACTURE OF SMALL AMOUNTS OF POTASSIUM, RUBIDIUM AND CESIUM METAL. [1963] 5p. (fig. omitted) 12 refs.
Order from SLA $1.10 63-16150

Trans. of Zeitschrift für Anorganische und Allgemeine Chemie (Germany) [1927, v. 160, p. 128-132].

DESCRIPTORS: *Potassium, *Rubidium, *Cesium, Decomposition, Barium compounds, Azides, Chlorides, Vacuum apparatus, Alkai metal compounds.

Bube, Kurt.
ON MAGNESIUMAMMONIUMPHOSPHATE. [1963] 75p. (formulae fig. tables omitted) 39 refs.
Order from SLA $7.60 63-16234

Trans. of Zeitschrift f[ür] Analyt[ische] Chemie (Germany) 1910, v. 49, no. 9/10, p. 525-596.

DESCRIPTORS: *Phosphates, *Ammonium radicals, *Magnesium compounds.

Chiznik, A. A.
[FLUORINE SALTS AND POWDERED SILICA GEL]. III. THE METHOD FOR THE PRODUCTION OF FLUORINE SALTS AS WORKED OUT BY THE STATE INSTITUTE OF APPLIED CHEMISTRY. [1963] 16p.
Order from OTS or SLA $1.60 63-16177

Partial trans. (p. 62-72) of Gosudarstvennyi Institut Prikladnoi Khimii. [Trudy] 1939 [v. 30] no. 5, p. 56-73.

DESCRIPTORS: *Fluorides, *Silicon compounds, Dioxides, *Gels, Powders, *Fillers, Ammonium compounds, Boron compounds, Aluminum compounds, Sodium compounds, Synthetic rubber, Scientific organizations.

Colbjörsen, B.
PROCESS FOR PRODUCTION OF DICALCIUM-PHOSPHATE AND AMMONIUM SALTS OF STRONG INORGANIC ACIDS. [1963] 8p. 1 ref.
Order from OTS or SLA $1.10 63-18142

Trans. of Swedish patent 76,801, cl. 16:2, effective as of 7 Nov 28, by Stockholms Superfosfat Fabriks Aktiebolag.

DESCRIPTORS: *Calcium compounds, *Phosphates, *Ammonium radicals, *Sulfates, *Nitrates, Production, Phosphoric acids, Sulfuric acid, Nitric acids.

Fuha, Yoshio.
PREPARATION OF PHOSPHOROUS OXYCHLORIDE. [1963] 7p.
Order from OTS or SLA $1.10 63-14536

Trans. of Japanese patent application 1950-1807, effective 21 June 50, appl. 14 Feb 49, by Noguchi Lab.

DESCRIPTORS: *Phosphorus compounds, *Oxychlorides, Carbon, Chlorine, Calcium compounds.

This invention concerns a new industrial preparation of liquid phosphorous oxychloride from carbon, chlorine gas, and phosphorous rock composed of calcium phosphate. The outline of the procedure is as follows: A mixture of phosphorous rock containing large amounts of calcium phosphate and carbon is put into the reaction furnace, and chlorine gas is blown into the reaction zone of the furnace while the temperature is kept around 900°C with the aid of an auxiliary heating apparatus. Molten calcium chloride formed in this process can be separated conveniently, and a gaseous mixture containing phosphorous trichloride which is taken out from the top of the furnace is passed through a contact tower filled with silisic acid, carbon, or a mixture of these, with the resultant formation of liquid phosphorous oxychloride as a condensed product. (Author)

Fujii, Keisuke, Sako, Hiroshi, and Mikasa, Kazuo.
IMPROVEMENT ON METHOD OF MAKING ANHYDROUS MAGNESIUM CHLORIDE. July 63, 7p. (figs. omitted).
Order from SA $19.00 SA Code-P-199

Trans. in manuscript of published Japanese patent 7451/1962, cl. 15-E-231.3, appl. no. 34605/1959 filed 6 Nov 59, pub. 7 July 62, by Asahi Kasei Kogyo Co., Ltd.

DESCRIPTORS: *Magnesium compounds, *Chlorides, *Anhydrides, Ammonium compounds, Dehydration.

Golovnya, V. A. and Bolotova, G. T.
LESS CARBONATES COMPLEXES DE L'URANIUM (IV) [AND] LES COMPLEXES CARBONATO-OXALATES DE L'URANIUM (IV)) [Complex Carbonate Compounds of Uranium (IV) [and] Complex Carbonate-Oxalate Compounds of Uranium (IV)] tr by Garber. 26 Apr 62 [40]p. (foreign text first article included) (figs. second article omitted) 12 refs. CEA trans. no. R 1621 (text in French).
Order from OTS or SLA $3.60 63-15487

Trans. in French of Zhurnal Neorganicheskoi Khimii (USSR) 1961, v. 6, no. 11, p. 2481-2495.

DESCRIPTORS: *Uranium compounds, Complex compounds, *Carbonyl radicals, *Oxalates, *Carbonates.

On a réalisé la synthése de quelques nouveaux complexes carbonatés d'uranium (IV). Nous considérons que ces corps font partie d'une seule et meme série gé - nérique de sels complexes á nombre de coordination constant et égal à 8. On a émis l'hypothese que la sphère interne du pentacarbonate complexe a la forme d'une bipyramide hexagonale où trois des cinq groupements CO_3 sont situés à la base et occupent deux liaisons de coordination chacun, tandis que les deux restants sont monovalents et situés aux sommets. (Author)

Gorokhov, L. N., Akishin, P. A., and Khodeev, Yu. S.
ETUDE DE LA SUBLIMATION DU NaCl A L'AIDE D'UN SPECTROMÈTRE DE MASSE (Mass-Spektrometrikheskoe Issledovanie Sublimatsii Khlorida Natriya) [Mass-Spectrometric Investigation of the Sublimation of Sodium Chloride] tr. by Kahan. 20 Apr 62 [9]p. (foreign text included) 10 refs. CEA Trans. no. R 1642.
Order from OTS or SLA $1.10 63-15477

Trans. in French of Zh[urnal] Neorg[anicheskoi] Khim[ii] (USSR) 1958, v. 3, no. 12, p. 2597-2598.
Another trans. in English is available from OTS or SLA $1.10 as 61-19730 [1961] 5p.

DESCRIPTORS: *Sodium compounds, *Chlorides, Sublimation, *Mass spectroscopy, Heat of sublimation, Halides.

Hikosaka, Riichi.
PREPARATION OF LITHIUM CHLORIDE. [1963] 4p.
Order from OTS or SLA $1.10 63-16071

Trans. of Japanese patent 158, 610, announcement, 1943, no. 2926, gr. 5, div. 144: halogen compound, appl. date 19 Nov 41, announcement 10 June 43, effective 30 Aug 43.

DESCRIPTORS: *Lithium compounds, *Chlorides, Lithium, Minerals.

The mineral containing lithium is ground to powder, and by treatment with hydrofluoric acid it is converted to lithium fluosilicate which is soluble in water. On the addition of alkali, silicic acid is separated and the solution of lithium hydroxide is obtained. Ammonium carbonate is then added with the resulting precipitation of lithium carbonate. This precipitate is filtered, washed, and dried, and with the treatment of hydrochloric acid, it is converted to lithium chloride. The object is to make a new, simple method for the industrial preparation of lithium chloride, and accordingly, metallic lithium at a low cost. (Author)

Kilman, Ya. I. and Klevke, V. A.
CONTRIBUTION À L'UTILISATION DES SOLUTIONS CONTENANT DU NITRATE D'AMMONIUM ET DE L'AMMONIAQUE DANS LA FABRICATION DE L'ACIDE NITRIQUE (Utilization of Aqueous Solutions Containing Ammonium Nitrate and Ammonia in the Manufacture of Nitric Acid). 5p. 5 refs. FR-1529.
Order from OTS, ETC or CNRS $0.80 62-26474

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1960, v. 33, no. 3, p. 533-535.
Another trans. is available in English from LC or SLA mi$1.80, ph$1.80 as 61-10394 [1960] 3p.

DESCRIPTORS: *Nitric acid, Production, Ammonium radicals, Nitrates, Ammonia, Solutions, Absorption, *Nitrogen compounds, Dioxides.

Obukhov, A. P. and Lavrov, V. P.
OBTAINING MAGNESIUM CHLORIDE FROM SOLUTIONS BY THE ACTION OF HYDROGEN CHLORIDE (Poluchenie Khloristogo Magniya iz Rastvorov Deistviem Khloristogo Vodoroda). [1963] [21]p. (foreign text included) 6 refs.
Order from OTS or SLA $2.60 63-18144

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1931, v. 4, no. 7/8, p. 994-1001.
Another trans. is available from SLA as R-3342, 8p.

DESCRIPTORS: *Magnesium compounds, *Chlorides, Production, Solutions, *Hydrochloric acid, Chemical equilibrium.

Szvedov, V. P.
ON OXYHALIDES OF LEAD. [1963] 8p. 1 ref.
Order from OTS or SLA $1.10 63-18359

Trans. of [Zhurnal Obshchei Khimii] (USSR) 1946, v. 16, p. 1561-1566.

DESCRIPTORS: *Lead compounds, *Oxyhalides, Oxychlorides, Oxybromides, Iodides, Mixtures, Chemical bonds, Crystal structure.

The data of various investigators, where numerous lead oxyhalides are considered as separated chemical compounds, evoked doubts as to the correctness of conclusions of some of the authors. The oxyhalides of lead of different composition which were obtained in the present study strengthened these doubts. Data concerning the exchange in the systems $PbBr_2$ - NH_4OH and $2\,PbO \cdot H_2O$ - KBr converted these doubts into a certainty. However, one point was not yet settled, i. e. whether these salts were isomorphic, or mechanical mixtures of separate chemical compounds. It is to be considered certain that in the lead oxyhalides only the halogens may isomorphically substitute each other. A crystallooptical investigation of some of the lead oxybromides proved that formation of the isomorphic bonds might be supposed only between $PbBr_2$ and $Pb(OH)Br$, whereas between $2\,PbO \cdot H_2O$ and $Pb(OH)Br$ only mechanical mixtures of two types of crystals are formed. (Author)

Vol'nov, I. I. and Shatunina, A. N.
THE FORMATION OF LITHIUM SUPEROXIDE FROM $Li_2O_2 \cdot 2H_2O_2$. [1963] 5p. 12 refs.
Order from OTS or SLA $1.10 63-18474

Trans. of #Zhur[nal] Neorg[anicheskoi] Khim[ii] (USSR) 1959, v. 4 [no. 2] p. 257-259.

DESCRIPTORS: *Lithium compounds, Oxides, Synthesis (Chemistry), *Peroxides, Hydrates, Dehydration, Vacuum systems

For the first time lithium peroxide preparations containing 7-9 wt. % LiO_2 together with Li_2O_2 were obtained by vacuum drying $Li_2O_2 \cdot 2H_2O_2$ at 100-120° and at 10 mm Hg. (Author)

Zvyaguintsev, O. E. and Kurbanov, A.
REDUCTION ELECTROLYTIQUE DE QUELQUES COMPOSES ACIDONITROSES DU RUTHENIUM (Elektrolitícheskoe Vosstanovlenie Nekotorykh Atsidonitrozosoedinenii Ruteniya) [Electrolytic Reduction of Acidonitrosyl Compounds of Ruthenium] tr. by Garber. 24 Mar 62 [10]p. (foreign text included) 6 refs.
CEA Trans. no. R 1527.
Order from OTS or SLA $1.10 63-15475

Trans. in French of #Zh[urnal] Neorg[anicheskoi] Khim[ii] (USSR) 1961, v. 6, no. 9, p. 2216-2218.

DESCRIPTORS: *Ruthenium, *Nitrogen compounds, Acids, Reduction, Electrolysis,

La réduction électrolytique du ruthénium dans une solution sulfurique de ces composés acidonitrosés s'effectue lentement avec un courant de faible densité, ce qui permet de mesurer les potentiels de transition d'un degré d'oxydation à l'autre. Les courbes exprimant le potentiel redox en fonction de la durée de l'électrolyse se caractérisent, pour une intensité constante du courant, par trois variations brusques du potentiel, correspondant respectivement à : la réduction de NO, réduction de Ru (II) en Ru (I), réduction Ru (I) $\rightarrow$ Ru^0. Les valeurs des potentiels redox caractérisant les deux composés étudies sont proches l'une de l'autre pour chacun des trois stades de la réduction. La première variation brusque du potentiel s'observe à 500 mV, la deuxième a 750 mV et la troisième à 1140 mV (par rapport à l'électrode de référence au sulfate de mercure). Le degré d'oxydation du ruthénium dans les solutions initiales de ces composés acidonitrosés est egal à 2. (Author)

Organic Chemistry

DECOLORATION REFINING METHOD FOR CRUDE GLUTAMIC ACID. 18 June 63, 6p. 4212/62 Japan.
Order from INT $16.50

Trans. of Japanese patent 4212/62 by Ajinomoto Co. Ltd., filed 20 June 59.

DESCRIPTORS: *Glutamic acid, Refineries, Colors, Purification, *Amino acids.

IMPROVEMENTS IN THE HYDROFORMYLATION PROCESS. 20 June 63, 5p. 8177/57 Japan.
Order from INT $13.50

Trans. of Japanese patent 8177/57 by Ajinomoto Co. Ltd., filed 22 Apr 55.

DESCRIPTORS: Carbon compounds, Monoxides, Hydrogen, *Aldehydes, Formaldehyde, Synthesis

MANUFACTURING METHOD FOR ALKYLENEDICYANAMIDE. 18 June 63, 8p. 11011/62 Japan.
Order from INT $22.50

Trans. of Japanese patent 11011/62 by Kiichiro Sugino and 2 others of 50 Yaraicho, filed 23 Mar 60.

DESCRIPTORS: *Cyanamides, Ethylenes, Manufacturing method.

MANUFACTURING METHOD FOR ETHYL ACETATES. 18 June 63, 8p. 7953/62 Japan.
Order from INT $24.00

Trans. of Japanese patent 7953/62 by Kyowa Hokkoo Kogyo Co. Ltd., filed 15 Feb 58.

DESCRIPTORS: *Acetates, *Ethyl radicals, Manufacturing methods.

MANUFACTURING METHOD FOR STARCH DERIVATIVE. 24 June 63, 7p. 16598/60 Japan.
Order from INT $21.00

Trans. of Japanese patent 16598/60 by Kanegabuchi Booseki Co. Ltd., filed 16 May 58.

DESCRIPTORS: *Starches, Manufacturing methods.

MANUFACTURING METHOD FOR TIN TRIBENZYL OR DIBENZYL COMPOUNDS WITH ORGANIC ACIDS. 14 June 63, 11p. 6428/54 Japan.
Order from INT $33.00

Trans. of Japanese patent 6428/54 by Yoshitomi Seiyaku Co. Ltd., filed 26 Apr 52.

DESCRIPTORS: Organic acids, Organic compounds, *Benzyl radicals, *Tin compounds.

MANUFACTURING PROCESS FOR 6-FLUORO-STEROID DERIVATIVE. 18 June 63, 5p. 9580/62 Japan.
Order from INT $13.50

Trans. of Japanese patent 9580/62 by Teikoku Zooki Seiyaku Co., Ltd., filed 10 Feb 59.

DESCRIPTORS: *Steroids, *Fluorides, Manufacturing methods.

MANUFACTURING PROCESS FOR L-GLUTAMIC ACID BY FERMENTATION OF VITAMIN B1-ADDED CULTURE MEDIUM. 18 June 63, 7p. 24047/61 Japan.
Order from INT $21.00

Trans. of Japanese patent 24047/61 by Ajinomoto Co. Ltd. and Sanraku Shuzoo Co. Ltd., filed 8 Apr 59.

DESCRIPTORS: *Glutamic acid, Manufacturing methods, *Vitamin B complex, *Culture media, *Amino acids.

MANUFACTURING PROCESS FOR L-GLUTAMIC ACID FROM RACEMIC GLUTAMIC ACID. 18 June 63, 5p. 6811/62 Japan.
Order from INT $15.00

Trans. of Japanese patent 6811/62 by Kyowa Hakko Co. Ltd., filed 28 Mar 60.

DESCRIPTORS: *Glutamic acid, Stereochemistry, Molecular isomerism, *Amino acids.

MANUFACTURING PROCESS FOR L-GLUTAMIC ACID THROUGH A FERMENTATION METHOD. 24 June 63, 11p. 743/60 Japan.
Order from INT $33.00

Trans. of Japanese patent 743/60 by Kyowa Hakko Kogyo, filed 29 Oct 56.

DESCRIPTORS: *Glutamic acid, Biochemistry, Manufacturing methods, *Fermentation, *Amino acids.

METHOD FOR ACYLATION OF THE POLYOXYMETHYLENES. 21 June 63, 14p. 1792/61 Japan
Order from INT $42.00

Trans. of Japanese patent 1792/61 by Farbenfabriken Bayer A. G., Germany, filed 14 Jan 60.

DESCRIPTORS: *Methanes, Oxides, Polymers, *Acylation.

METHOD FOR MANUFACTURE OF CYSTEIN. 18 June 63, 3p. 16019/62 Japan.
Order from INT $9.00

Trans. of Japanese patent 16019/62 by Ajinomoto Kabushiki Kaisha, filed 27 Sep 60.

DESCRIPTORS: *Cysteine, Manufacturing methods, *Amino acids.

METHOD FOR MANUFACTURE OF DIESTERS OF PHTALIC ACIDS. 18 June 63, 4p. 10778/62 Japan.
Order from INT $10.50

Trans. of Japanese patent 10778/62 by Sekisui Kagaku Kabushiki Kaisha, filed 19 Sep 60.

DESCRIPTORS: *Phthalic acids, Esters, Manufacturing methods, *Phthalates.

METHOD FOR MANUFACTURE OF DIHYDROACETIC ACID. 24 June 63, 7p. 7728/61 Japan.
Order from INT $21.00

Trans. of Japanese patent 7728/61 by Dai-Nippon Celluloid Kabushiki Kaisha, filed 27 Sep 57.

DESCRIPTORS: *Acetic acids, Hydrogen compounds, Manufacturing methods, Hydrogenation.

METHOD FOR MANUFACTURE OF HIGHER ALKYL MERCAPTAN. 18 June 63, 4p. 23318/61 Japan.
Order from INT $12.00

Trans. of Japanese patent 23318/61 by Goro Kondo, filed 11 Dec 58.

DESCRIPTORS: *Thiols, Alkyl radicals, Manufacturing methods.

METHOD FOR MANUFACTURE OF OLEFIN CHLOROHYDRIN. 18 June 63, 9p. 7457/62 Japan.
Order from INT $25.50

Trans. of Japanese patent 7457/62 by Showa Denko Kabushiki Kaisha, filed 4 Dec 58.

DESCRIPTORS: *Ethylenes, *Halohydrins, Chlorine compounds, Manufacturing methods.

METHOD FOR MANUFACTURE OF 2-METHYL-4-AMINO-5 ALKOXYMETHYL-PYRIMIDINE.
13 June 63, 4p. 1925/52 Japan.
Order from INT $12.00

Trans. of Japanese patent 1925/52 by Shionogi Seiyaku Kabushiki Kaisha, filed 15 June 50.

DESCRIPTORS: *Pyrimidines, Methyl radicals, Amines, Alkoxy radicals, Manufacturing methods.

METHOD FOR OXIDATION OF CYCLOALKANES.
18 June 63, 6p. 774/63 Japan.
Order from INT $18.00

Trans. of Japanese patent 774/63 by Mitsubishi Kasei Kogyo Kabushiki Kaisha, filed 25 June 60.

DESCRIPTORS: Monocyclic compounds, *Hydrocarbons *Oxidation, *Cycloalkanes.

METHOD FOR SEPARATION OF LACTAMS.
20 June 63, 5p. 7130/51 Japan.
Order from INT $13.50

Trans. of Japanese patent 7130/51 by Toyo Rayon Co., Ltd., filed 22 Apr 50.

DESCRIPTORS: *Amines, *Hydroxides, Anhydrides, Separation, *Lactams.

METHOD FOR SYNTHESIS OF α-OXYIMINOCAPRO-LACTAM. 19 June 63, 3p. 3111/63 Japan.
Order from INT $9.00

Trans. of Japanese patent 3111/63 by President of Osaka University, filed 7 Oct 58.

DESCRIPTORS: *Imines, Anhydrides, *Amines, Synthesis (Chemistry), *Lactams.

METHOD FOR SYNTHESIS OF α-OXYIMINOCAPRO-LACTAM. 19 June 63, 3p. 3112/63 Japan.
Order from INT $7.50

Trans. of Japanese patent 3112/63 by President of Osaka University, filed 7 Oct 58.

DESCRIPTORS: *Imines, Anhydrides, *Amines, Synthesis (Chemistry), *Lactams.

METHOD FOR SYNTHESIS OF HIGHER ALCOHOL FROM LOWER ALCOHOL. 14 June 63, 6p. 3217/55 Japan.
Order from INT $18.00

Trans. of Japanese patent 3217/55 by Director of Agency of Industrial Science and Technology, Japan, filed 14 May 55.

DESCRIPTORS: *Alcohols, Synthesis (Chemistry).

METHOD FOR UREA SYNTHESIS ACCOMPANIED BY SIMPLE COMPLETE CIRCULATION OF UREACTED SUBSTANCES. 26 June 63, 8p. 4868/63 Japan.
Order from INT $24.00

Trans. of Japanese patent 4868/63 by Nippon Plant Kyokai Inc., filed 31 Aug 59.

DESCRIPTORS: *Urea, Synthesis (Chemistry), *Waste gases.

A METHOD OF MANUFACTURING BENZOYLAMINO-ACID AMIDE DERIVATIVE WHICH HAS OR HAS NOT A SUBSTITUENT. 18 June 63, 11p. 8276/62 Japan.
Order from INT $31.50

Trans. of Japanese patent 8276/62 by Nihon Shin-yaku Co. Ltd., filed 29 Jan 60.

DESCRIPTORS: *Amino acids, Benzoyl radicals, *Amides, Manufacturing methods.

NEUTRALIZATION OF ACETAMIDE CONTAINING ACIDIC MIXTURE OBTAINED BY REARRANGEMENT OF ALICYCLIC OXIME. 20 June 63, 6p. 5520/56 Japan.
Order from INT $18.00

Trans. of Japanese patent 5520/56 by Inventa A. G. für Forschung und Patent Verwertung, Switzerland, filed 30 Sep 54.

DESCRIPTORS: *Acetamides, Neutralization, Mixtures, Acids, *Oximes.

NOVEL METHOD OF MANUFACTURING TOLUNITRILE. 18 June 63, 3p. 9084/62 Japan.
Order from INT $7.50

Trans. of Japanese patent 9084/62 by Yoshio Nagai, filed 15 Jan 58.

DESCRIPTORS: *Nitriles, *Toluenes, Manufacturing methods, Cyano radicals.

OXIDATION METHOD FOR THE CYCLOALKANES.
18 June 63, 6p. 11121/62 Japan.
Order from INT $16.50

Trans. of Japanese patent 11121/62 by Mitsubishi Kasei Kogyo Co. Ltd., filed 17 Oct 59.
Another trans. is available from SA $16.00 as SA Code-P-99, July 63, 7p.

DESCRIPTORS: Monocyclic compounds, *Hydrocarbons, *Oxidation, *Cycloalkanes.

POLY SCIENCE USSR, 1963, VOL. 4, NO. 1, P. 1-205. June 63, 1v.
Order from PP $140.00/year

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1962, v. 4, no. 1, p. 3-8, 25-29, 42-51, 64-65, 85-90, 98-104, 109-123; no. 2, p. 174-187, 201-206, 237-241, 250-255, 270-275, 304-311; no. 3, p. 351-356, 361-365, 371-375, 383-388, 393-404, 429-432, 463-470; no. 4, p. 481-491, 516-522, 533-539, 577-582. Abstracts are included of selected articles from v. 4, no. 9.

DESCRIPTORS: *Polymers, Chemistry, *Elastomers, *Acrylic resins, *Butadienes, Polymerization, Potassium compounds, *Amides, *Polyvinyl chloride, Radiation chemistry, *Plastics, *Platinum catalysts, *Styrene plastics, Peroxides, *Phenolic plastics, *Fibers (Synthetic), *Polyamide plastics, *Polyethylene plastics, *Isoprene, Styrene, Propenes, *Ziegler catalysts, Metalorganic compounds, *Vinyl plastics, *Maleic anhydride, Pyridines, Acrylic acids, *Acetyl plastics, Gold, Thallium, *Polyvinyl alcohol.

Consists of articles by V. G. Aldoshin, L. Alexandru, N. K. Baramboim, R. V. Basova, S. E. Bresler, Z. S. Egorova, E. Z. Fainberg, S. Ya. Frenkel', D. Sh. Korotkina, I. L. Kotlyarevskii, G. N. Lapshin, S. G. Lyubetskii, G. P. Mikhailov, N. V. Mikhailov, K. S. Minsker, K. A. Moskalov, A. M. Polyakova, R. Rado, G. A. Razuvaev, A. I. Shatenshtein, I. T. Slyusarov, P. Smeitek, A. D. Stepukhovich, B. I. Tikhomirov, V. N. Tsvetkov, P. A. Vinogradov.

PROCESS FOR HALOGEN SUBSTITUTE DIAMINODIHYDROXYANTHRAQUINONE. 20 June 63, 7p. 9089/57 Japan.
Order from INT $21.00

Trans. of Japanese patent 9089/57 by Farbenfabriken Bayer A.G., Germany, filed 7 Mar 56.

DESCRIPTORS: *Anthracenes, Ketones, Hydroxides, Amines, *Chlorine compounds.

PROCESS FOR MANUFACTURE OF L-GLUTAMIC ACID. 18 June 63, 10p. 4311/62 Japan.
Order from INT $30.00

Trans. of Japanese patent 4311/62 by Asahi Kasei Kogyo Co. Ltd., filed 21 Nov 59.

DESCRIPTORS: *Glutamic acid, Sterochemistry, Molecular isomerism, *Amino acids.

PROCESS FOR NEW CYANOPYRAZOL. 25 June 63, 13p. 8581/61 Japan.
Order from INT $39.00

Trans. of Japanese patent 8581/61 by Ciba Ltd., Switzerland, filed 22 Nov 58.

DESCRIPTORS: *Pyrazoles, Cyano radicals, Manufacturing methods.

PROCESS FOR SEPARATION OF L-GLUTAMIC ACID FROM CRUDE SOLUTION OF L-GLUTAMIC ACID. 18 June 63, 7p. 9969/62 Japan.
Order from INT $21.00.

Trans. of Japanese patent 9969/62 Asahi Kasei Kogyo Co., Ltd., filed 12 Dec 59.

DESCRIPTORS: *Glutamic acid, Stereochemistry, Molecular isomerism, Separation, *Amino acids.

PROCESS FOR THE MANUFACTURE OF THE AQUEOUS SOLUTION OF POLYALANINE. 18 June 63, 7p. 10095/62 Japan.
Order from INT $19.50

Trans. of Japanese patent 10095/62 by Riichiro Yamasaki, filed 12 May 60.

DESCRIPTORS: *Alanines, *Polymers, Manufacturing methods.

PROCESS FOR THE PREPARATION OF UNSATURATED ALCOHOLS BY REDUCTION OF THE CORRESPONDING UNSATURATED FATTY ACIDS. [1963] 6p 8refs
Order from OTS or SLA $1.10 63-18935

Trans. of Dutch patent 83,379, cl. 124 bc 2 b 5 a (12 q 4 a 8: 12 o, 19 c, 124 bc 2 b 1 b) I. P.C. C 07 c, dated 16 Oct 56, pub. 15 Nov 56, appl. 189,499, filed 26 Jul 54, pub. 15 Jun 56, by N.V. Olieraffinaderij "Zuilen"

DESCRIPTORS: *Alcohols, Production, *Fatty acids, *Oleic acids, Reduction (Chemistry), *Catalysts, *Metallic soaps, *Cadmium compounds, Acetates, *Copper catalysts, Carbonates

The invention relates to a process for the production of the corresponding unsaturated fatty acids with the characteristic that one uses as catalyst a mixture of copper- and cadmium soaps in a proportion of 90 - 60% copper soaps and 10 - 40% cadmium soaps. The copper- and cadmium soaps are prepared by dissolving the required quantities of the metal oxides or metal salts concerned in the fatty acid. The quantity of metal amounts to 0.5 to 3.0 weight % calculated on the amount of fatty acid which is used. (Author)

PROCESS FOR THE SYNTHESIS OF 1-4-DIISOPROPYLIDENE-2-5-CYCLOHEXADIENE. 18 June 63, 6p. 6521/62 Japan.
Order from INT $18.00

Trans. of Japanese patent 6521/62 by Director of Agency of Industrial Science and Technology, Japan, filed 28 May 59.

DESCRIPTORS: *Diene syntheses, Propyl radicals, *Cyclohexadienes.

PROCESS OF MAKING ALKYL COMPOUNDS OF METAL AS LEAD, TIN AND THE LIKE. [1963] 5p.
Order from OTS or SLA $1.10 63-16793

Trans. of Japanese patent 86574, appl. 2 Oct 29, acceptance 7 May 30, patentee: Nippon Sekiyu K. K.

DESCRIPTORS: *Lead compounds, *Tin compounds, Alkyl radicals, Chemical reactions, Ethyl radicals.

PROCESS OF PRODUCTION OF CHLORINATED DERIVATIVES OF ACETALDEHYDE. [1963] 7p 1ref
Order from OTS or SLA $1.10 63-18872

Trans. of French patent 711,095, gr. 14, cl. 1, [by] Société des Usines Chimiques Rhone-Poulenc, filed 13 Feb 31, issued 16 Jun 31, pub. 2 Sep 31 (pat. appl: Germany, 4 Mar 30 by declaration of applicant).

DESCRIPTORS: *Acetaldehydes, Chlorination, *Acetals, *Chlorides, Production.

PURIFICATION OF ACETYLENE. 20 June 63, 7p. 2420/51 Japan.
Order from INT $19.50

Trans. of Japanese patent 2420/51 by Nihon Carbide Kogyo Kabushiki Kaisha, filed 21 Oct 49.

DESCRIPTORS: *Acetylenes, Purification.

REFINING PROCESS FOR LACTAMS. 20 June 63, 5p. 2723/51 Japan.
Order from INT $15.00

Trans. of Japanese patent 2723/51 by Toyo Rayon Co., Ltd., filed 29 Sep 49.

DESCRIPTORS: *Amines, *Hydroxides, Anhydrides, *Lactams, Purification.

SIMULTANEOUSLY MANUFACTURING METHOD FOR GLYOXAL AND META-ALDEHYDE FROM ACETALDEHYDE. 18 June 63, 4p. 9209/62 Japan.
Order from INT $10.50

Trans. of Japanese patent 9209/62 by Nihon Gosei Kagaku Kogyo Co. Ltd., filed 18 Apr 59.

DESCRIPTORS: *Acetaldehydes, Molecular isomerism, Aldehydes, Manufacturing methods.

SYNTHESIS OF UREA. 14 June 63, 8p. 3374/57 Japan.
Order from INT $22.50

Trans. of Japanese patent 3374/57 by Toyo Koatsu Kogyo Co. Ltd., filed 20 Sep 54.

DESCRIPTORS: *Urea, Synthesis (Chemistry).

UREA SYNTHESIS. 26 June 63, 11p. 5269/63 Japan.
Order from INT $33.00

Trans. of Japanese patent 5269/63 by Nippon Plant Kyokai Inc., filed 31 Aug 59.

DESCRIPTORS: *Urea, Synthesis (Chemistry).

Anselm, Hans.
PROCESS FOR MANUFACTURE OF CRYSTALLIZED AIR-STABLE 1-(+)-MONOPOTASSIUM GLUTAMATE. [1963] 2p.
Order from OTS or SLA $1.10 63-16113

Trans. of German patent 825 549, cl. 129, gr. 6 01 s 20458 IV c/12q, by Sagitta Mfg. Co. G.m.b.H., patented 5 Oct 50, announced 15 Nov 51.

DESCRIPTORS: *Glutamic acid, *Potassium compounds, Crystals, Stability, Salts.

Bashkirov, A. N., Kagan, Yu. B., and Kryukov, Yu. B.
SOME CHARACTERISTICS OF THE SYNTHESIS OF HYDROCARBONS FROM CARBON MONOXIDE AND HYDROGEN WHEN EXIT GASES ARE CIRCULATED (Nekotorye Osobennosti Sinteza Uglevodorodov iz Okisi Ugleroda i Vodoroda na Zheleznykh Katalizatorakh v Usloviyakh Tsirkulyatsii Otkhodyashchikh Gazov). [1963] 13p. 11 refs. Fuel Research Trans. NT608; [DSIR] NLL M.3714.
Order from OTS or SLA $1.60 63-19837

Trans. of Akad[emiya] Nauk SSSR. Otdel[enie] Tekh-[nicheskikh] Nauk. Izv[estiya] 1956 [no. 6]p. 136-143.

DESCRIPTORS: *Hydrocarbons, *Fuels, Synthesis (Chemistry), *Carbon compounds, *Monoxides, *Hydrogen, Gas flow, Iron catalysts.

Theory and experiment show that, in synthesis on a fined bed of fused iron catalyst, recirculation of the exit gases has the following advantages. The process is more evenly distributed over the bed, and the possible yield of hydrocarbons is increased to 208.4g/cu.m (n.t.p.). The conversion of carbon monoxide by water from the synthesis acts as a regulator of the stoichiometry of the process over a wide range of space velocities and hydrogen - carbon monoxide ratios. This increases the scope for influencing the composition of the product and the formation of the catalytic surface. (Fuel Abstracts)

Berlin, A. A. and Razvodovskii, E. F.
SYNTHESIS OF POLYMERS WITH CHARGED HETEROATOMS IN THE MACROMOLECULAR CHAINS POLYMERISATION OF ONIUM COMPOUNDS. 11 Apr 62, 4p. 6 refs. [Trans] T. 1379; [DSIR] NLL M 8889.
Order from OTS or SLA $1. 10 63-15196

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 140, no. 3, p. 598-600.

DESCRIPTORS: *Polymerization, *Onium compounds, *Paramagnetic resonance, *Electrical conductance, *Pyridines, *Chlorides, Atoms, Ions, Copolymerization.

The polymerization of 4-chloropyridine was studied. The chemical and physical properties of its polymerization products are noted. The paramagnetic resonance and electrical conductance of onium compounds are discussed.

Blyumenfel'd, L. A., Kalmanson, A. E., and Sheng, P'ei-ken.
SUR LES PARTICULARITÉS DE LA STRUCTURE ÉLECTRONIQUE DES ACIDES NUCLÉIQUES ET DE LEURS COMPLEXES AVEC LES ALBUMINES (Features of the Electronic Structure of Nucleic Acids and their Complexes with Proteins). 7p. 7 refs.
Order from OTS, ETC or CNRS $0. 80 62-26971

Trans. in French of Akademiya Nauk SSSR. Doklady, 1959, v. 124, no. 5, p. 1144-1146.
Other translations are available in English from LC or SLA mi$1. 80, ph$1. 80 as 59-21201, 6p. and 59-18363, 8p.

DESCRIPTORS: *Nucleic acids, *Complex compounds, Albumins, Molecular structure, Electrons, *Paramagnetic resonance, Proteins.

Emanuel', N. M. and Denisov, E. T.
SOBRE LAS POSIBILIDADES DE OXIDACION DEL BENZOL A FENOL EN FASE LIQUIDA (O Printsipial' noi Vozmozhnosti Zhidkofaznogo Okisleniya Benzola v Fenol) (On the Possibilities of the Oxidation of Benzene into Liquid Phase Phenol). 12p. 4 refs. CID: 62-248.
Order from OTS, ETC or CID $0.80 62-29248

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1957, v. 117, no. 3, p. 485-461.

DESCRIPTORS: *Benzenes, Oxidation, *Phenols.

Fauser, G.
A PROCESS OF MANUFACTURE OF UREA. July 63, 4p.
Order from SA $16.00 SA Code-P-220

Trans. of Japanese patent 228, 850, published pat. 3812/1955, cl. 16-B-811, appl. no. 12321/1952 filed 5 Aug 52, pub. 6 June 55.

DESCRIPTORS: *Urea, Manufacturing methods, *Waste gases, *Ammonia, *Carbon dioxide, *Ammonium compounds, *Carbamates, Synthesis (Chemistry).

Fedotova, O. Ya., Losev, I. P., and Skripchenko, N.I
AN INVESTIGATION OF THE REACTION OF AROMATIC DIAMINES WITH DIISOCYANATES. II. REACTIVITY OF SOME AROMATIC DIAMINES. [1963] 11p 8refs
Order from OTS or SLA $1.60 63-20061

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1963, v. 5, no. 2, p. 227-232.

DESCRIPTORS: Benzene derivatives, *Amines, *Isocyanates, *Reaction kinetics, Alkyl radicals, Substitution reactions, Isocyanate plastics, Quantitative analysis.

The results of the study of the relative reactivitv of 4,4'-diaminodiphenylmethane, 4,4'-diamino-3,3'-diethyldiphenylmethane, and their N-alkyl substitution products are presented. The reactivity of aromatic diamines through the rate at which they react with diisocyanate is characterized. The reaction rates were studied chemically, by quantitative determination of the unreacted diamine and diisocyanate. (Author)
(See also 63-20060)

Gil'dengershel', K. I. and Panteleeva, E. P.
NEW CONDITIONS OF SYNTHESIS WITH THE PARTICIPATION OF $PtCl_4^{2-}$ IONS (Novye Usloviya Sinteza s Uchastiem Ionov $PtSl_4^{2-}$). Sep 62 [9]p. (foreign text included) 9 refs. [DSIR] NLL M.3959.
Order from OTS or SLA $1.10 63-19870

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1961, v. 140, no. 2, p. 371-373.

DESCRIPTORS: *Sodium compounds, *Platinum compounds, *Chlorides, Ions, *Amines, Methyl radicals, Pyridines, Hydroxides, Chemical precipitation, Synthesis.

Thus, a new method of synthesis from Na_2PtCl_4 is proposed giving a ten-fold increase in the concentration of $PtCl_4^{2-}$; with this method, it is possible to produce successfully, by the action of free methylamine, the appropriate cis-diamine, thereby essentially eliminating the "methylamine anomaly"; and to produce more readily $[Pt(II \times Cl)_2]$, which is precipitated together with the Magnus salt analogue without hydrolysis products. By utilizing the greater solubility of $Na[PtPyCl_3]$ (where Py = pyridine) compared with $K[PtPyCl_3]$, it was found possible to accelerate substantially the synthesis of the mixed diamine $[PtNH_3PyCl_2]$ and increase its yield. (Author)

Gil'm, Kamai.
PREPARATION OF PHOSPHONIUM COMPOUNDS WITH AN ASYMMETRIC PHOSPHORUS ATOM (K Voprosu o Poluchenii Fosfonievykh Soedinenii s Asimmetricheskim Atomom Fosfora). June 63 [6]p. 20 refs. RTS-2226.
Order from OTS or SLA $1.10 63-23242

Trans. of Zhurnal Obshchei Khimii (USSR) 1932, v. 2, no. 6, p. 524-528.

DESCRIPTORS: *Phosphorus compounds (Organic), *Phosphonium radicals, Ethyl radicals, Phenyl radicals, Benzyl radicals, Acetyl radicals, Acyl radicals, Chlorides, Bromides, *Phosphines, Synthesis (Chemistry), Phosphorus.

Gol'dfarb, Ya. L. and Godovikova, S. N.
THE PROBLEM OF THE STRUCTURE OF THE AMIDATION PRODUCTS OF NICOTINE. [1962] 6p. 13 refs.
Order from OTS or SLA $1.10 63-18463

Trans. of #Akad[emiya] Nauk SSSR. Otd[elenie] Khim[icheskikh] Nauk. Izvest[iya] 1961 [no. 2] p. 360-362.
Another trans. is available from K-H $7.50 as K-H-11411-b [1962] 6p.

DESCRIPTORS: *Molecular structure, *Amides, *Nicotine.

Imugai, K. and Hosoi, K.
ÉTUDE DES DÉRIVÉS FLUORES DE L'AMILINE EMPLOYÉS COMME BASES DE NAPHTOL (Fluorine Derivatives of Aniline as Bases for Naphtol). 9p. 10 refs. FX-14.
Order from OTS, ETC or CNRS $0.80 62-26510

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1955, v. 58, p. 592.

DESCRIPTORS: *Fluorides, *Anilines, Naphtalenes, Synthesis (Chemistry), *Naphthols.

Inoue, Yoshiyuki and Yukawa, Hanzaburo.
SEPARATION AND CHARACTERIZATION OF FATTY ACIDS. PT. 1. HYDROXAMIC ACID DERIVATIVES OF SATURATED ACIDS, PT. 2. HYDROXAMIC ACID DERIVATIVES OF UNSATURATED ACIDS. [1963] [24]p. (tables refs. omitted). AERDL T-1679.
Order from OTS or SLA $2.60 63-19395

Trans. of Nihon Nogei-Kagakkai Shi (Japan) 1940, v. 16, no. 6, p. 504-512.

DESCRIPTORS: *Fatty acids, *Hydroxamic acids, *Fish oils, *Vegetable oils, Fatty acid esters, Recrystallization, Chemical reactions, Separation.

Jaacks, V[olker] and Kern, W[erner].
INITIATORS OF THE POLYMERIZATION OF TRIOXANE. Pt. 20 on Polyoxymethylenes. [1963] 14p.
Order from ATS $17.75 ATS-52Q70G

Trans. of Makromol[ekulare] Chem[ie] (Switzerland) [1963], v. 62, p. 1-17.

DESCRIPTORS: *Methanes, Oxygen compounds, Sublimation, *Polymerization, Formaldehyde, Catalysis.

The rates of adsorption of nicotine from 0.2 molar nicotine hydrochloride solution by Na forms of two sulfonic acid type and four carbonic acid type cation exchange resins were determined. A discussion is given, based on the experimental data of this and the previous investigations, of the relationship existing between adsorption of nicotine and gel structure of the resins. (Author)

Kawabe, H., Tsuboyama, S., and Yanagida, M.
A STUDY ON RATE OF ADSORPTION OF NICOTINE BY CATION EXCHANGE RESINS. [Feb 61] 9p. 11 refs.
Order from SLA $1.10 63-16687

Trans. of Rikagaku Kenkyujo Hokoku (Japan) 1959, v. 35, no. 6, p. 426-428.
Another trans. is available from K-H $11.25 as K-H 10607-c, Feb 61, 9p.

DESCRIPTORS: *Nicotine, *Absorption (Physical), *Ion exchange resins.

Knunyants, I. L. and Krasuskaya, M. P.
DERIVATIVES OF PERFLUODICARBONIC ACIDS. 26 May 63 [7]p. 4 refs. FTD-TT-63-463; AD-409 198.
Order from OTS $0.50 63-11668

Unedited rough draft trans. of #A[kademiya] N[auk] SSSR. [Otdelenie Khimicheskikh Nauk]. Izvestiya, 1963, no. 1, p. 190-192.

DESCRIPTORS: *Fluorocarbons, Ethylenes, Ethanes, Carboxylic acids, *Dibasic acids, Fluorides, Chlorine compounds, *Anhydrides, *Esters, *Amides, *Nitriles, *Amidines, *Adipic acid, *Sebacic acid, Methylenes, Reduction, Sodium compounds, Borohydrides, Ammonium compounds, Chlorides, Alcohols, *Polymers, Synthesis (Chemistry)

Acids of the general formula $HOOC(CF_2)_NCOOH$ (where N = 4, 8, or 12) may be obtained from products of the telomerization of tetrafluorethylene by trifluodichloroiodoethane. Bifunctional derivatives of these perfluodicarbonic acids (chloranhydrides, esters, amides, nitriles, and amidines) were synthesized. By using sodium borohydride in the presence of anhydrous ammonium chloride, the esters of perfluoradipic, perfluosebacic, and perfluododeca-methylene-dicarbonic acids were reduced to obtain the corresponding $\alpha, \alpha\ \omega, \omega$-tetrahydroperfluodiols of the general formula $NOCH_2\text{-}(CF_2)_NCH_2ON$ (where N is as above). Some of the bifunctional derivatives were used for obtaining polymer compounds.

Knunyants, I. L., Shokina, V. V., and Li, Chu-yuan.
METHOD OF OBTAINING PERFLUODICARBONIC ACIDS. 22 May 63 [4]p. FTD-TT-63-457; AD-409 724.
Order from OTS $0.50 63-11665

Unedited rough draft trans. of Russian patent 127, 654, [pub.] 1960, appl. no. 630, 762/23, 12 June 59.

DESCRIPTORS: *Fluorocarbons, Carboxylic acids, *Dibasic acids, *Adipic acid, *Sebacic acid, Fluorides, Synthesis (Chemistry), *Ethylene derivatives, Dienes, Oxidation, *Potassium compounds, *Permanganates, Polyamide plastics, Polyester plastics

Acids of the general formula $HOOC(CF_2)_{4_2} + 4$ COOH may be had by the oxidation of $\alpha\text{-}\ \omega$ -perfluodiolefins which have a number of carbon atoms ≥ 8 and are a multiple of 4. Potassium permanganate is used as the oxidizing agent. As examples, perfluosebacic acid is obtained from 1, 11-perfluododecadiene, and perfluoradipic acid is obtained from 1, 7-perfluoroctadiene by this method. These perfluorized dicarbonic acids may be used in the synthesis of noncombustable, heat-resistant polyesters and polyamides.

Kojima, Hayashi and others.
ÉTUDES SUR LES ACIDES LIGNOSULFONIQUES (VIII) FRACTIONNEMENT À L'AIDE D'UN SOLVANT ORGANIQUE (Lignosulfonic Acid (VIII) Fractionating by Organic Solvents). 10p. 6 refs. FX-1097.
Order from OTS, ETC or CNRS $0.80 62-26463

Trans. in French from Kami-pa Gikyoshi (Japan) 1961, v. 15, no. 126.

DESCRIPTORS: *Liguin, Sulfonic acids, Amines, Cyclohexanes, *Organic solvents, *Fractionation.

Lutskii, A. E.
VARIATION DE LA DENSITÉ DANS LES SÉRIES HOMOLOGUES DES COMPOSÉS ORGANIQUES (Changes in Density in Homologous Series of Organic Compounds) 6p. 9 refs.
Order from OTS, ETC or CNRS $0.80 62-26493

Trans. in French of #Zhurnal Obshchei Khimii (USSR) 1950, v. 20, no. 5, p. 801-807.

DESCRIPTORS: *Organic compounds, *Density, Molecules, Volume, Theory.

Maillard, A., Deluzarche, A. R. J., and Maire, J. C.
SOME TIN ALKOXIDES. [1963] 4p.
Order from ATS $5.25 ATS-78Q70F

Trans. of Soc[iété] Chim[ique de] France. Bull[etin] 1958, p. 853-854.

DESCRIPTORS: *Tin, *Alkoxy radicals, Oxides.

Maincon, M., Alheritiere, L., and Mention, M.
PROCEDURE FOR THE PURIFICATION OF ETHYL ALCOHOL OBTAINED BY FERMENTATION. [1963] 3p.
Order from ATS $6.00 ATS-84Q70S

Trans. of Swedish patent 131,381, cl. 6 b:30, valid from 21 Nov 46, granted 1 Feb 51, pub. 24 Apr 51 (priority from 23 Sep 46, France).

DESCRIPTORS: Alcohols, *Ethanols, *Fermentation, Purification.

Miyake, Kunihiko and Ito, Goro.
A PROCESS FOR PURIFYING UREA LIQUOR.
July 63, 5p.
Order from SA $16.00 SA Code-P-225

Trans. of Japanese patent 189.015, published pat. 2234/1951, cl. 16-B-811, appl. no. 13348/1949 filed 16 Dec 49, pub. 8 May 51, by Toyo Koatsu Industries, Inc.

DESCRIPTORS: *Urea, Purification, Impurities, Iron, *Colloids, Production, Chemical precipitation, Electrolytes, *Ion exchange.

Morita, Joh.
METHOD OF MANUFACTURING ADIPIC ACID.
July 63, 6p.
Order from SA $16.00 SA Code-P-219

Trans. of published Japanese patent 6506/1962, cl. 16-B-621 (13-F-1) appl. no. 29756/1958 filed 16 Oct 58, pub. 29 June 62, by Noguchi Research Foundation.

DESCRIPTORS: *Adipic acid, Manufacturing methods, Synthesis (Chemistry), *Cyclohexanols, Oxidation, Nitrogen compounds, Dioxides, Nitric acid, Vanadium catalysts.

Nakazima, M., Okubo, T., and Katumura, Y.
THE ALKALINE DEHYDROCHLORINATION OF THE BENZENE HEXACHLORIDE ISOMERS. Rept. 4 of Studies on Agricultural Chemicals by the Polarographic Method. [1963] 22p. (figs. omitted) 8 refs.
Order from SLA $2.60 63-16794

Trans. of Botyu-Kagaku (Japan) 1949, v. 14, p. 10-19.

DESCRIPTORS: *Benzenes, *Chlorides, Molecular isomerism, *Hexachlorocyclohexanes, Cyclohexenes, Hydrochloric acid, Hydroxides, Polarographic analysis, Insecticides.

The dehydrohalogenation of benzene hexachloride isomers in an alkaline medium was studied by the polarographic method. The intermediate decomposition products, γ- and δ-pentachlorocyclohexene, were isolated and identified. The alkaline dehydrohalogenation of the related compound, α-heptachlorocyclohexane, was also investigated and the intermediate product, α-hexachlorocyclohexene, was isolated. All of these intermediate compounds yielded cyclohexane and hydrochloric acid when reduced with hydrogen in the presence of PtO_2. The conclusions of J. Cristol (J. Am. Chem. Soc. 69: 338, 1947) with reference to the alkaline dehydrohalogenation of benzene hexachloride isomers were critically examined. This study showed that the reaction speeds could be determined readily by the polarographic method. (Author)

Nesmeyanov, A. N. and Kocheshkov, K. A.
SYNTHESIS OF METALLOORGANIC COMPOUNDS BY METHOD OF DOUBLE DIAZONIUM SALTS. XVII. SYNTHESIS OF TETRAPHENYLLEAD BY THE ACTION OF METALLIC LEAD POWDER ON PHENYLDIAZONIUM BOROFLUORIDE. [1963] 5p. 10 refs.
Order from OTS or SLA $1.10 63-16035

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1945, no. 5, p. 522-524.

DESCRIPTORS: *Phenyl radicals, *Lead compounds, *Boron compounds, *Fluorides, Lead, Metal powders, Azo radicals, *Metalorganic compounds, Synthesis (Chemistry).

It is shown that through the decomposition of phenyldiazonium borofluoride with metallic lead powder tetraphenyllead is obtained. (Author)

Niwa, Tan, Kikuchi, Yoshiaki and others.
METHOD OF MAKING OXO-COMPOUND. July 63, 8p.
Order from SA $16.00 SA Code-P-176

Trans. of published Japanese patent 12254/1962, cl. 16-B-51 (16-B-013) appl. no. 33813/1958 filed 26 Nov 58, pub. 28 Aug 62, by Mitsubishi Kasei Kogyo Co., Ltd.

DESCRIPTORS: *Aldehydes, Butyl radicals, Synthesis (Chemistry), *Cobalt catalysts, Carboxylic acids, *Oxo process.

Numata, Yuki, Okada, Takuo and others.
A PROCESS FOR REUSING UNREACTED PRODUCT. July 63, 3p.
Order from SA $16.00 SA Code-P-223

Trans. of Japanese patent 244,168, published pat. 9068/1957, cl. 16-B-811, appl. no. 25183/1955 filed 22 Sep 55, pub. 24 Oct 57, by Toyo Koatsu Industries, Inc.

DESCRIPTORS: *Urea, *Waste gases, *Ammonia, *Carbon dioxides, *Ammonium compounds, *Carbamates, Synthesis (Chemistry)

Okada, Takuo, Yamaguchi, Katsuhiko and others.
A PROCESS FOR UTILIZING WASTE GAS FROM UREA MANUFACTURE. July 63, 5p.
Order from SA $16.00 SA Code-P-224

Trans. of Japanese patent 206,418, published pat. 1481/1954, cl. 16-B-811, appl. no. 1167/1952 filed 29 Jan 52, pub. 20 Mar 54, by Toyo Koatsu Industries, Inc.

DESCRIPTORS: *Urea, *Waste gases, *Ammonia, *Carbon dioxide, *Ammonium compounds, *Carbamates Synthesis (Chem).

Otsuka, Eiji, Yakabe, Masatoshi, and Yoshimura, Shinji.
A PROCESS FOR RECOVERY OF UNREACTED PRODUCT. July 63, 5p. 2 refs.
Order from SA $16.00 SA Code-P-221

Trans. of Japanese patent 253,283, published pat. 1072/1959, addition to pat. 244,169, cl. 16-B-811, appl. no. 3545/1956 filed 15 Feb 56, pub. 3 Mar 59, by Toyo Koatsu Industries Inc.

DESCRIPTORS: *Urea, *Waste gases, *Ammonia, *Carbon dioxide, *Ammonium compounds, *Carbamates, Synthesis (Chemistry).

Otsuka, Eiji, Yakabe, Masatoshi, and Yoshimura, Shinji.
A PROCESS FOR RECOVERY OF UNREACTED PRODUCT. July 63, 8p. (figs. omitted) 2 refs.
Order from SA $19.00 SA Code-P-222

Trans. of Japanese patent 244,169, published pat. 1473/1958, cl. 16-B-811, appl. no. 28283/1955 filed 28 Oct 55, pub. 5 Mar 58, by Toyo Koatsu Industries, Inc.

DESCRIPTORS: *Urea, *Waste gases, *Ammonia, *Carbon dioxide, *Ammonium compounds, *Carbamates, Synthesis (Chemistry)

Petrov, K. A., Nifant'ev, E. E. and others.
SYNTHESIS OF POLYPHOSPHITES AND POLYPHOSPHINITES ON A GLYCEROL AND PENTAERYTHRITOL BASE. Pt. 5 of Phosphorus-Containing Polymers. [1963] 6p. (tables formulae omitted) 4 refs.
Order from OTS or SLA $1.10 63-16281

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1962, v. 4, no. 8, p. 1219-1222.
Another trans. is available from ATS $7.50 as ATS-86Q68P [1963] 5p.

DESCRIPTORS: *Polyester plastics, *Plasticizers, *Insecticides, *Phosphorus compounds (Organic), *Phosphites, *Phosphines, Polymers, Synthesis (Chemistry), Esterification, *Glycerols, Butanols, *Phosphorus acids, Esters, Chemical properties, Oxidation, Sulfuration, Sulfonyl radicals, Chlorides, Sulfides.

Polyphosphites and polyphosphinites were derived by the method of trans-esterification of phosphites and phosphinites with glycerol and pentaerythritol. A study was begun of the chemical properties of the polyesters of trivalent phosphorus acids: oxidation, sulfur addition, interaction with sulfenchlorides and disulfides. (Author) (See also 63-17465)

Raclavsky, J. and Radek, J.
METHOD AND EQUIPMENT FOR THE HYDROLYTIC CLEAVAGE OF 1-CYCLOHEXYLIDENE-2-CYCLOHEXANONE TO CYCLOHEXANONE. [1963] 3p.
Order from ATS $3.75 ATS-15Q69C

Trans. of Czechoslovakian patent 95,459, issued 15 June 60, opened for public inspection 15 Nov 59.

DESCRIPTORS: *Cyclohexanones, *Hexyl radicals, Hydrolysis.

Randaccio, Carlo.
PROCESS FOR THE MANUFACTURE OF LEAD ALKYL COMPOUNDS. [1963] 3p.
Order from OTS or SLA $1.10 63-16812

Trans. of Italian patent 496366, cl. XXIV, appl. filed 8 Nov 52, granted 12 July 54, issued Jan 57.

DESCRIPTORS: *Lead compounds, Alkyl radicals, Ethyl radicals, Chemical reactions, Catalysts, Lead alloys, Sodium alloys, Manufacturing methods.

The invention involves a process for the manufacture of tetraethyl lead, characterized in that to the ethyl chloride which is one reaction partner, a small amount of a heterocyclic compound is added, which contains at least one aldehyde group and is given in a large enough amount so that it can act as reaction catalyst. (Author)

Rozova, M. I. and Stolyarova, F. N.
ANALYSE DES NITROPARAFFINES AU MOYEN DE LA MÉTHODE CHROMATOGRAPHIQUE (Analiz-Nitroparafinov s Primeneniem Khromatograficheskogo Metoda) (Chromatographic Separation of Nitroparaffins) 7p. (foreign text included). 22 refs.
Order from OTS, ETC or CNRS $0.80 62-26509

Trans. in French of #Zhurnal Analiticheskoi Khimii (USSR) 1959, v. 14, no. 3, p. 343-346.

DESCRIPTORS: *Hydrocarbons, *Nitro radicals, Chromatographic analysis.

Shchukina, M. N. and Predvoditeleva, G. S.
SUR LES TRANSFORMATIONS DES ORTHO-ET PARA-NITROTOLUOLS EN MILIEU BASIQUE (On the Transformations of Ortho- and Para-Nitrotoluenes in an Alkaline Medium). 10p. 15 refs.
Order from OTS, ETC or CNRS $0.80 62-26917

Trans. in French of Akademiya Nauk SSSR. Doklady, 1956, v. 110, no. 2, p. 230-233.

DESCRIPTORS: *Toluenes, *Nitro radicals, Sulfur, Alcohols, Water, Sodium compounds, Hydroxides, Chemical reactions.

Sidorova, N. G. and Tsukervanik, I. P.
CONDENSATION D'ALCOOLS AVEC LES HYDROCARBURES AROMATIQUES EN PRÉSENCE DE CHLORURE D'ALUMINIUM. CONDENSATIONS DU CYCLOHEPTANOL AVEC LE BENZÈNE ET LE TOLUÈNE (Kondensatsii Spirtov s Aromaticheskimi Uglevodorodam z Prisutstvii Khloristogo Alyuminiya) (Condensation of Alcohols with Aromatic Hydrocarbons in Presence of Aluminium Chloride. Condensations of Cycloheptanol with Benzene and Toluene). 6p. 5 refs. FR-956.
Order from OTS, ETC or CNRS $0.80 62-26512

Trans. in French of Zhurnal Obshchei Khimii (USSR) 1940 [v. 10] no. 23-24, p. 2073-2076.
An abstract trans. is available in English from OTS or SLA $1.10 in 61-20378 [1961] 9p.

DESCRIPTORS: *Hydrocarbons, Aluminum compounds, Chlorides, Alcohols, *Benzenes, *Toluenes, Heptanes, *Condensation reactions.

Sobue, Hiroshi, Tomita, Akira and others.
METHOD OF MANUFACTURING ARYL DIALKYL PEROXIDE. July 63, 6p.
Order from SA $16.00 SA Code-P-177

Trans. of published Japanese patent 10668/1962, cl. 16-C-45, appl. no. 4665/1959 filed 14 Feb 59, pub. 9 Aug 62, by Tokai Denkyoku Seizo Co., Ltd.

DESCRIPTORS: *Peroxides, *Benzyl radicals, Methyl radicals, Production, Synthesis (Chemistry), *Hydroperoxides, Alcohols, *Ion exchange resins.

Sofue, Hiroshi, Tsunoda, Yasugoro, and Kato, Tokio.
METHOD OF PRODUCING ARYL-DIALKYL PEROXIDE. July 63, 7p.
Order from SA $16.00 SA Code-P-180

Trans. of published Japanese patent 12374/1960, cl. 16-C-45 (13-F-13) (16-D-0) appl. no. 23998/1957 filed 27 Sep 57, pub. 31 Aug 60, by Tokai Electrode Mfg. Co., Ltd.

DESCRIPTORS: *Peroxides, *Benzyl radicals, Methyl radicals, Production, Synthesis (Chemistry), *Hydroperoxides, Condensation reactions.

Sofue, Hiroshi, Tsunoda, Yasugoro, and Kato Tokio.
METHOD OF PRODUCING ARYL-DIALKYL PEROXIDE. July 63, 5p.
Order from SA $16.00 SA Code-P-191

Trans. in manuscript of published Japanese patent 12375/1960, cl. 16-C-45 (13-F-1) (16-D-0) appl. no. 23999/1957 filed 27 Sep 57, pub. 31 Aug 60, by Tokai Electrode Mfg. Co., Ltd.

DESCRIPTORS: *Peroxides, *Benzyl radicals, Alkyl radicals, Methyl radicals, Production, Synthesis (Chemistry), *Hydroperoxides, Pentyl radicals, Alcohols, *Catalysts, *Clays, *Bentonite

Solodar, L. S. and Shevchenko, Z. N.
ROLE OF SULFURIC ACID IN THE CHLOROSULFONATION OF ACYLANILIDES. [1963] 12p.
Order from ATS $13.65 ATS-67Q70R

Trans. of Zh[urnal] Prikl[adnoi] Khim[ii] (USSR) 1949, v. 22, no. 5, p. 508-517.

DESCRIPTORS: *Sulfuric acid, *Aniline derivatives, Chlorination, Sulfonation.

Stepukhovich, A. D. and Naumov, Yu.
CINETICA Y MECANISMOS DEL CRACKING DE HIDROCARBUROS PARAFINICOS. INFLUENCIA DEL FACTOR HETEROGENEO EN LA CINETICA Y MECANISMO DEL CRACKING DEL ETANO Y DEL PROPANO (Kinetika i Mekhanizm Krekinga Parafinovykh Uglevodorodov. Vliyanie Geterogennogo Faktora na Kinetiku i Mekhanizm Krekinga Etana i Propana) (Kinetics and Cracking Mechanisms of Paraffin Hydrocarbons. Influence of the Heterogeneous Factor on the Kinetics and Cracking Mechanisms of Ethane and Propane). 16p. 8 refs. CID: 62-225.
Order from OTS, ETC or CID $0.80 62-29225

Trans. in Spanish of #Zhurnal Fizicheskoi Khimii (USSR) 1960 [v. 34] no. 7, p. 1488-1494.

DESCRIPTORS: Decomposition, *Hydrocarbons, *Ethanes, *Propanes.

Tödt, F. and Dalavier, H. J.
ELECTROCHEMICAL MEASUREMENT OF THE OXIDATION OF GLUCOSE AND FRUCTOSE BY DISSOLVED OXYGEN (Die Elektrochemische Messung der Oxydation von Glukose und Fruktose durch Gelösten Sauerstoff). [1963] [13]p. (foreign text included) 24 refs.
Order from SLA $1.60 63-16374

Trans. of Zeitschrift für die Zuckerindustrie (West Germany) 1957, v. 7, no. 3, p. 109-115.

DESCRIPTORS: *Electrochemistry, *Oxidation, *Glucose, *Sucrose, Oxygen reaction kinetics, Measurement.

The author succeeded in observing by aid of electrochemical measurements of oxygen the reaction of glucose and fructose with dissolved oxygen and he as well examined the dependence of reaction velocity upon the temperature, the pH value and the sugar concentration. The lowest concentration of fructose which allowed measuring the reaction by oxygen was determined at 10^{-6} mol 1. (Author)

Tokawa, Toru, Arai, Tomio, and Hara, Naomi.
METHOD OF ABSORBING AND SEPARATING ACETYLENE. July 63, 6p. (fig. omitted).
Order from SA $16.00 SA Code-P-189

Trans. in manuscript of published Japanese patent 9059/1962, cl. 16-B-122 (16-B-120.21) appl. no. 26699/1958 filed 19 Sep 58, pub. 23 July 62, by Chiyoda Kako Kensetsu Co., Ltd.

DESCRIPTORS: *Acetylenes, Gases, Absorption, Separation, *Absorbents, *Methanols, *Ammonia

Topchiev, A. V., Krentsel', B. A., and Il'ina, D. E.
CLORACION A FONDO DEL PROPANO SOBRE UN CONTACTO MOVIL (Glubokoe Khlorirovanie Propana na Dvizhushchemsya Kontakte) (Absolute Chlorination of Propane on a Moving Contact). 14p. 3 refs.
CID: 62-250.
Order from OTS, ETC or CID $0.80 62-29250

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1957, v. 116, no. 5, p. 800-803.

DESCRIPTORS: Catalysis, *Propanes, *Chlorination.

Topchiev, A. V., Nametkin, N. S. and Povarov, L. S.
SYNTHÈSE DES COMPOSÉS ORGANOSILICIQUES DU TYPE BIS, TÉTRAALCOYLDISILAN-MÉTHANE CYCLODIOXYEE (The Synthesis of Organosilicon Compounds of the Bis, Tetraalkyldisilanomethane, Cyclodioxide Type). 10p. 6 refs.
Order from OTS, ETC or CNRS $0.80 62-26933

Trans. in French of Akademiya Nauk SSSR. Doklady, 1956, v. 109, no. 2, p. 332-336.

DESCRIPTORS: Organic compounds, *Silicon compounds, *Silanes, Synthesis (Chemistry), *Dioxides

Vanag, G. Ya. and Yagat, R. A.
RÉACTION COLORÉE DE L'HYDRAZINE ET DES COMPOSÉS LIBÉRANT CETTE DERNIÈRE (Colored Reactions of Hydrazine and of Compounds Liberating it). 6p. 14 refs. FR-397.
Order from OTS, ETC or CNRS $0.80 62-26515

Trans. in French from Akademiya Nauk SSSR. Doklady, 1960, v. 133, no. 2.

DESCRIPTORS: *Hydrazines, Hydantoins, *Colorimetric analysis.

Würthle, Peter.
OPTICAL BRIGHTENERS. [1963] 8p. (tables formulae refs. omitted).
Order from SLA $1.10 63-14383

Trans. of Chemische Technik (East Germany) 1961, v. 13, no. 10, p. 598-603.

DESCRIPTORS: *Fluorescence, *Organic compounds, Chemical analysis, Chemical properties, *Dyes.

This article reports on the use, action and historical development of the preparation of optical brighteners. The basic configurations of the proposed compounds are shown, and the manufacturing firms listed, with their products. Possibilities of use and the manner of handling the optical brighteners are discussed. The requirements to be set for optical brighteners are outlined and the relations between constitution and technical usefulness explained. (Author)

Yagupolskii, L. M.
SYNTHÈSE DE DÉRIVÉS DE L'ÉTHER PHENYLTRIFLUORMÉTHYLIQUE (Synthesis of Derivatives of Phenyl-Trifluoromethyl Ether). 6p. FR-1534.
Order from OTS, ETC or CNRS $0.80 62-26517

Trans. in French of Akademiya Nauk SSSR. Doklady, 1955, v. 105, no. 1, p. 100-102.

DESCRIPTORS: *Phenyl radicals, *Methyl radicals, *Fluorides, Ethers, Synthesis (Chemistry)

Yagupolskii, L. M. and Manko, N. I.
NOUVELLE MÉTHODE DE SYNTHESE DES DÉRIVÉS ORTHO DU TRIFLUOROMETHYLBENZENE (New Synthesis of Ortho-Derivatives of Benzotrifluoride). 7p. 8 refs. FR-1535.
Order from OTS, ETC or CNRS $0.80 62-26519

Trans. in French of #Zhurnal Obshchei Khimii (USSR) 1953, v. 23, no. 5, p. 988-991.

DESCRIPTORS: *Fluorides, *Methyl radicals, *Benzenes, Synthesis (Chemistry)

Yagupolskii, L. M. and Troskaya, V. I.
COLORANTS CYANINES CONTENANT DU FLUOR. IV. SYNTHÈSE DE COLORANTS CYANINES À PARTIR DES TRIFLUOROMÈTHOXY-5 ET 6-BENZOTHIAZOLE (Cyanine Dyes Containing Fluorine. IV. Synthesis of Dyes from 5- and 6- Trifluoromethoxy-Benzothiazoles). 15p. 5 refs. FR-1536.
Order from OTS, ETC or CNRS $0.80 62-26518

Trans. in French of #Zhurnal Obshchei Khimii (USSR) 1957, v. 27, p. 518-526.

DESCRIPTORS: *Colors, *Cyano radicals, *Thiazoles, Fluorides, Benzenes, Dyes.

Zhuk, D. S., Keppen, V. A., and Pokatilo, N. A.
RÉACTION DU CYCLOHEXÈNE AVEC L'ACIDE NITRIQUE CONCENTRÉ (Inter Action between Cyclohexene and Concentrated Nitric Acid). 8p. 10 refs. FR-2320.
Order from OTS, ETC or CNRS $0.80 62-26957

Trans. in French of Akademiya Nauk SSSR. Doklady, 1961, v. 136, no. 2, p. 346-350.

DESCRIPTORS: *Cyclohexenes, *Nitric acid, Chemical reactions, Nitro radicals, Alcohols, Acids, Ketones.

Ziegler, Karl.
METHOD FOR OBTAINING ORGANIC COMPOUNDS OF ALUMINUM AND BERYLLIUM. [1963] 24p.
Order from OTS or SLA $2.60 63-16813

Trans. of Belgian patent 512, 267, appl. 20 June 52, issued 15 July 52.

DESCRIPTORS: *Organic compounds, *Aluminum compounds, *Beryllium compounds, *Hydrocarbons, *Ethylenes, Chemical reactions.

The invention concerns new methods for obtaining organic compounds of aluminum and beryllium. It rests on the observation that the compounds of the general formula $Me(R)_n$, in which Me represents one of the two indicated metals, R represents hydrogen or a saturated monovalent radical, aliphatic or aromatic, in any combination whatever, and n has the value of the valence of the metal Me, can combine with olefins. The compounds of the type $[Me(R)_n]$ can react just as well in the form of their molecular combination with the ethers, the thio ethers, or the tertiary amines as in the form of their complex compounds with the alkali hydrides, the alkali metal alkyls, and the alkali metal aryls. The starting materials for the process in accordance with the invention include among others: AlH_3, aluminum hydride; $LiAlH_4$, lithium aluminum hydride; AlH_2R, alkyl aluminum hydrides; $AlHR_2$, dialkyl aluminum hydrides; AlR_3, trialkyl or aryl aluminum; $LiAlR_4$, lithium aluminum tetraalkyl; $NaAlHR_3$, trialkyl sodium aluminum hydride; and similar products such as the etherates of aluminum trialkyls; BeH_2, beryllium hydride; BeHR, alkyl beryllium hydride; BeR_2, dialkyl beryllium; dialkyl beryllium etherates; and the analogous molecular complexes with the tertiary amines and the thioethers. The unsaturated hydrocarbons can be added to all these compounds in simple integral ratios. (Author)

Ziegler, Karl, Gellert, Hans-Georg, and Nagel, Konrad.
PROCESS FOR THE PREPARATION OF ALKYL-ALUMINUM HYDRIDES. [1963] 10p.
Order from OTS or SLA $1.10 63-16817

Trans. of German patent 918,928, pub. 7 Oct 54.

DESCRIPTORS: *Aluminum compounds, *Alkyl radicals, *Hydrides, Halides, Metalorganic compounds, *Ziegler catalysts.

The invention includes a process for the preparation of alkyl aluminum hydrides of the general formula AlHXY, wherein X is alkyl, R and Y are alkyl or hydrogen, and their complex compounds with alkali hydrides, characterized by the fact that one reacts alkyl aluminum dihalides of dialkyl aluminum monohalides with alkali hydrides. (Author)

Ziegler, Karl and Koster, Roland.
PROCESS FOR THE PREPARATION OF ORGANO-ALUMINUM COMPOUNDS ESPECIALLY THE TRIALKYLS TOGETHER WITH CRYOLITE. [1963] 11p.
Order from OTS or SLA $1.60 63-16814

Trans. of German patent application Z2838, 22 July 52.

DESCRIPTORS: *Aluminum compounds, Organic compounds, *Cryolite, Alkyl radicals.

The invention concerns a process for the preparation of organo-aluminum compounds, especially aluminum trialkyls, together with cryolite, characterized in that alkyl or aryl aluminum halides, especially alkyl aluminum sesquihalides are reacted with alkali fluorides at elevated temperature, advantageously in exact stoichiometric proportions, and under nitrogen. (Author)

Zinkov, Z. E. and Pylaeva, L. M.
ANALYSE DES MÉLANGES D'ANILINE, MONO- ET DIMÉTHYLANILINE (Analysis of Mixitures of Aniline, Mono- and Dimethylaniline). 6p. 18 refs. FR-396.
Order from OTS, ETC or CNRS $0.80 62-26514

Trans. in French of #Zhurnal Analiticheskoi Khimii (USSR) 1960, v. 15 [no. 1] p. 109-111.

DESCRIPTORS: *Anilines, Methyl radicals, Mixtures, *Quantitative analysis, Azo radicals.

Zonis, E. S., Lerner, O. M., and Perekalin, V. V.
SYNTHÈSE DES DINITROTRIENES (Synthesis of Dinitrotrienes). 4p. 4 refs. FR-1735.
Order from OTS, ETC or CNRS $0.80 62-26453

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1961, no. 34 [no. 3] p. 711-712.
Another trans. is available in English from ATS $4.00 as ATS-40N57R [1961] 3p.

DESCRIPTORS: *Nitro radicals, Benzyl radicals, *Butenes, *Butadienes, Synthesis (Chemistry), *Butanes.

METHOD FOR ELECTROLYSIS OF SODIUM CHLORIDE BRINE. 20 June 63, 4p. 5221/56 Japan.
Order from INT $12.00

Trans. of Japanese patent 5221/56 by Asahi Kasei Kogyo Co. Ltd., filed 23 June 52.

DESCRIPTORS: *Sodium compounds, *Chlorides, Electrolysis.

Akhumov, E. I. and Vasil'ev, B. B.
TECHNOLOGICAL CALCULATIONS FOR THE EQUILIBRIUM OF THE CHLORIDES OF POTASSIUM, SODIUM AND MAGNESIUM AT HIGH TEMPERATURES. [1963] 12p. (figs. omitted) 3 refs.
Order from OTS or SLA $1.60 63-18107

Trans. of [Khimicheskaya Promyshlennost'] (USSR) 1931, v. 8, no. 17, p. 17-25.

DESCRIPTORS: *Chlorides, *Potassium compounds, *Sodium compounds, *Magnesium compounds, Chemical equilibrium, Solubility, Separation, Evaporation, Chemical precipitation.

Antipin, P. F. and Ivanova, L. I.
LA FORMATION DU CARBURE DE SILICIUM LORS DE L'ÉLECTROLYSE DES CRYOLITES ARGILEUSES FONDUES (Formation of Silicon Carbide in the Clectrolysis of Cryolite-Alumina Melts). 4p. 3 refs.
Order from OTS, ETC or CNRS $0.80 62-26496

Trans. in French of Akademiya Nauk SSSR. Doklady, 1950, v. 70, p. 283-284.

DESCRIPTORS: *Silicon compounds, *Carbides, Aluminum, Silicon, Alloys, *Cryolite, Electrolysis.

Azilenko, B. S. and Livshits, M. Ya.
PREPARATION OF EMULSIONS WITH THE AID OF ULTRASOUND [1963] 4p.
Order from ATS $5.00 ATS-26Q70U

Trans. of Legka[ya] Prom[yshlennost] (USSR) 1962 [v. 22] no. 1, p. 22-23.

DESCRIPTORS: *Colloids, *Ultrasonic radiation.

Blagoi, Yu. P.
DENSITIES OF SOLUTIONS OF CONDENSED GASES $Ar---CH_4$, N_2---CH_4. [1963] [19]p. 11 refs.
Order from OTS or SLA $1.60 63-19976

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1959, v. 4 [no. 5] p. 577-585.

DESCRIPTORS: *Liquefied gases, Density, *Argon, *Methanes, *Nitrogen, Molecular association, Volume, Mathematical analysis, Solutions.

The densities of solutions of condensed gases $Ar--CH_4$ and N_2--CH_4 were measured. The volumes of these solutions were found to be nonadditive. A correlation was established between the excess volume of mixing, on the one hand, and the energy of mixing and compressibility of the solution, on the other. The experimental results were compared with theoretical values, satisfactory agreement being achieved. (Author)

Borisevich, N. A., Zelinskii, V. V., and Neporent, B. S.
THE FLUORESCENCE YIELD OF VAPORS AND SOLUTIONS OF SUBSTITUTED PHTHALIMIDES. 6 Sep 62, 6p. 4 refs.
Order from OTS or SLA $1.10 63-10068

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1954, v. 94, [no. 1] p. 37-39.

DESCRIPTORS: Substitutes, *Phthalimides, Vapors, Solutions, *Fluorescence.

Centola, G.
CONTRIBUTION TO THE STUDY OF THE EFFECT OF ALKALINE SULFIDES UPON CELLULOSE. [1963] 8p. 12 refs.
Order from SLA $1.10 63-16080

Trans. of [Annali di Chimica] (Italy) 1941, v. 31, p. 20-24.

DESCRIPTORS: *Cellulose, *Sulfides, *Alkali metals, Crystal structure.

Chufarov, G. I. and Lokhvitskaya, A. P.
HYDROLYSIS OF MAGNESIUM CHLORIDE. [1963] [10]p. 7 refs.
Order from OTS or SLA $1.10 63-18108

Trans. of Kalii (USSR) 1933, no. 8, p. 24-28.

DESCRIPTORS: *Magnesium compounds, *Chlorides, Hydrolysis, *Hydrates, Dehydration.

Chzhou, Pin-i, Lukyanova, O. I., and Segalova, E. E.
METASTABLE SOLUTIONS OF CALCIUM SILICATES. [1963] 6p. 11 refs.
Order from OTS or SLA $1.10 63-16980

Trans. of Akademiya Nauk SSSR. Dodlady, 1961, v. 141, no. 1, p. 165-167.

DESCRIPTORS: *Calcium compounds, *Silicates, Solutions, Oxides, Mixtures, *Minerals, *Colorimetric analysis, Stability, *Phase studies.

The formation of supersaturated solutions was studied during the hydration of β-C_2S and C_3S and the metastable solubility of the silicates was established as a function of concentration of $Ca(OH)_2$, liberated as a result of their reaction with water. The variation in the composition of the aqueous phase during hydration of

silicates was investigated in conditions excluding the effect of CO_2 of the air on dilute suspensions (0.04-2.0 per cent silicates) by means of direct measurements of the concentration of Ca and silicate-ions (conventionally SiO_2) at a sufficiently high rate of mixing. Anhydrous silicates were synthesized at 1500° from chemically pure oxides and contained: β-C_2S (96 per cent) and C_3S (90 per cent of the basic mineral) and an admixture of low base silicates with complete absence of free CaO. SiO_2 was determined by a colorimetric method using the blue silicon-molybdate complex; Ca by a complexometric method.

Delimarskii, Yu. K. and Gorodyskii, A. V.,
ALLURE DES POLAROGRAMMES OBTENUS AVEC DES ELECTRODES SOLIDES AVEC COMME COORDONNEES: L'INTENSITE DU COURANT - LA TENSION APPLIQUEE - LE TEMPS (Polozhenie Polyarogramm, Snyatykh na Tverdykh Elektrodakh, v Koordinatakh Tok-Napryazhenie-Vremya) (The Position of Polarograms Obtained at Solid Electrodes in Current - Voltage - Time Coordinates) tr. by B Vinogradoff. 20 Apr 62 [15]p. (foreign text included included) 14 refs. CEA Trans. no. R 1649.
Order from OTS or SLA $1.60 63-15472

Trans. in French of #Zh[urnal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, no. 5, p. 1091-1094.

DESCRIPTORS: *Electrochemistry, *Polarographic analysis, *Electrodes, Polarization, Electric currents, Electric potential, Time.

Polarization processes at stationary electrodes are investigated. The automatically recorded polarograms are shown to coincide with a surface F(i, U, t) plotted on the basis of the time--current curves. Different methods of solid electrode polarography are interpreted with the aid of the F(i, U, t) function. (Author)

Enikeev, E. Kh., Krylova, A. V. and others.
EL TRABAJO DE EXTRACCION Y LA ACTIVIDAD CATALITICA DE LOS CONTACTOS DE HIERRO UTILIZADOS EN LA SINTESIS DEL AMONIACO (Rabota Vykhoda i Kataliticheskaya Aktivnost' Zheleznykh Kontaktov Ammiachnogo Sinteza) (Extraction and Catalytic Activity of Iron Contacts Employed in Ammonia Synthesis). 13p. 8 refs. CID: 62-246.
Order from OTS, ETC or CID $0.80 62-29246

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1960, v. 131, no. 5, p. 1126-1129.

DESCRIPTORS: *Iron catalysts, Synthesis (Chemistry), *Ammonia, Catalysis.

Ershler, B. V.
THE DISCRETE STRUCTURE OF CHARGE IN A DOUBLE LAYER (Uchet Diskretnogo Stroeniya Zaryada v Dvoinom Sloe) tr. by R. W. Hummel. Jan 62 [31]p. 6 refs. NP-tr-869.
Order from OTS or SLA $3.60 63-23295

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1946, v. 20, no. 7, p. 679-692.

DESCRIPTORS: *Adsorbents, Suface properties, Adsorption, Models (Simulations), *Electrochemistry, Ions, Electric potential, Gases, Solutions, Metals.

Eskin, V. E.
INDICATRIX FOR THE LIGHT SCATTERING OF POLYMER SOLUTIONS AND VOLUME EFFECTS. [1959] [10]p. 11 refs.
Order from OTS or SLA $1.10 63-18293

Trans. of Vysokomol[ekulyarnye] Soed[ineniya] (USSR) 1959, v. 1, no. 1, p. 138-142.
Another trans. is available from LC or SLA mi$1.80 ph $1.80 as 60-16649 [1960] 7p.

DESCRIPTORS: *Solutions, Optical properties, *Light, Scattering, Polymers, Styrene plastics, Toluences, Solvents, Molecules, Viscosity.

For abstract see Technical Translations 4: 320, 1960.

Grachev, K. Ya. and Kartalov, B. V.
COMPOSITION DES GAZ À L'ANODE ET RENDEMENTS DE COURANT DANS LA PRÉPARATION DU SODIUM PAR ÉLECTROLYSE DE CHLORURES AISÉMENT FUSIBLES (Sostav Anodnykh Gazov i Anodnykh Vykhody po Toku pri Poluchenii Natriya Elektrolizom Gelkoplavkikh Khloridnykh Elektrolitov) (Composition of Anode Gases and Current Efficiencies in the Production of Sodium by the Electrolysis of Low-melting Chlorides). 9p. (foreign text included) 3 refs. FR-1532.
Order from OTS, ETC or CNRS $0.80 62-26477

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1960 [v. 33, no. 8] p. 1834-1839.

DESCRIPTORS: *Chlorides, *Sodium compounds, Melting, *Electrolysis, Anodes, Gases, Oxygen, Electric currents.

Hashimoto, H. and Nagato, T.
GROSSEUR DES GRAINS DE MAGNÉSIE OBTENUS PAR DÉCOMPOSITION THERMIQUE DE LA MAGNÉSITE (Particle Size of Magnesia Prepared by the Thermal Decomposition of Magnesite). 9p. 9 refs. FX-1241.
Order from OTS, ETC or CNRS $0.80 62-26472

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1959, v. 62, p. 1478-1481.

DESCRIPTORS: *Magnesium compounds, *Carbonates, Decomposition, Oxides, Crystals, Vacuum furnaces, Gases, Measurement, Particle size, *Magnesite, Pyrolysis.

Hoshikawa, M. and Nagamune, S.
PRÉVENTION CONTRE LA TRANSFORMATION EN BLOCS SOLIDES DU NITRATE D'AMMONIUM (Anti-Caking Treatment for Ammonium Nitrate). 23p. 18 refs. FX-280.
Order from OTS, ETC or CNRS $0.80 62-26885

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1959, v. 62, no. 1, p. 38-42.

DESCRIPTORS: *Nitrates, *Ammonium radicals, Solids, Crystals, Transformations, *Detergents, Alkyl radicals, Amines, Acetates, Experimental data.

Hüttig, Gustav, F.
CONCERNING THE INTERMEDIATE PRODUCTS IN THE MODIFICATION CONVERSION AND THE CATALYTIC EFFECT OF FOREIGN GASES ON THESE PROCESSES. [1963] [9]p. (figs. omitted) 11 refs.
Order from SLA $1.10 63-16748

Trans. of Angewandte Chemie (Germany) 1940, v. 53, p. 35-39.

DESCRIPTORS: Gels, Aluminum compounds, Hydroxides, Titanium compounds, Hydrates, Dioxides, Hydrogen compounds, Chlorides, *Gases, Oxides, Catalysts, *Catalysis, Crystal structure, Solids, Chemical reactions, Crystal lattices.

Hüttig, Gustav F.
THE INTERMEDIATE STAGES THROUGH WHICH SOLID SUBSTANCES PASS DURING THEIR CONVERSION (Die Zwischenzustände, welche bei Chemischen Umwandlungen fester Stoffe Durchschritten Werden). [1963] [10]p. (foreign text included) 3 refs.
Order from SLA $1.10 63-16750

Trans. of Chemiker Zeitung (Germany) 1937, v. 61, no. 39, p. 408-409.

DESCRIPTORS: *Solids, Materials, Chemical reactions, Crystal lattices, *Crystal structure, Molecular structure.

Kontetskii, Ya.
THE QUANTUM CHEMISTRY OF CRYSTAL SURFACE [1962] 23p. 43 refs.
Order from OTS and SLA $2.60 62-18378

Trans. of Kinetika i Kataliz (USSR) 1961, v. 2, [no. 3] p. 319-339.

DESCRIPTORS: *Chemistry, *Quantum mechanics, *Crystals, Surfaces, Chemical properties, *Solid state physics, Atomic structure, Atomic spectroscopy, Crystal lattices, Chemisorption, Catalysis, Chemical bonds, Organic compounds, Diamonds, Graphite.

The contemporary state of quantum chemistry of the surface of crystals and its application to the determination of chemical properties of various types of surfaces is examined. (Author)

Kudryavtsev, N. T.
CAUSES FOR THE FORMATION OF SPONGY ZINC (Prichiny Obrazovaniya Gubchatykh Osadkov Tsinka na Katode). [1963] 9p. 10 refs.
Order from OTS or SLA $1.10 63-16755

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1950, v. 72 [no. 1] p. 93-95.

DESCRIPTORS: *Zinc, Electrolytes, *Additives, Electrolysis, Cathodes, Oxidation, Electrodeposition.

Kulikov, F. S.
[STUDY OF THE EQUILIBRIA OF] DISTRIBUTION OF PICRIC ACID [BETWEEN WATER AND NITROBENZENE] I. AND II, tr. by V. Beak. Comment on the article by S. V. Gorbachev and E. Ya. Mindovich. Nov 60 [8]p. 5 refs. NP-tr-552; [DSIR NLL] M. 3052.
Order from OTS or SLA $1.10 63-23302

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1954, v. 28, no. 12, p. 2232-2233 (original article pub. in Zhurnal Fizicheskoi Khimii (USSR) 1953, v. 27, no. 12, p. 1837-1847).

DESCRIPTORS: *Picric acid, *Nitrobenzenes, Water, *Phase studies, Thermodynamics.

(See also 63-23310)

Kuzbetsov, L. D. and Dachinov, S. S.
INFLUENCIA DE LOS PROMOTORES Al_2O_3 Y K_2O SOBRE LA ACTIVIDAD DEL CATALIZADOR DE HIERRO PARA LA SINTESIS DEL AMONIACO (O Vliyanii Promotorov Al_2O_3 i K_2O na Aktivnost' Zheleznogo Katalizatora Sinteza Ammiaka) (Influence of Al_2O_3 and K_2O Promoters on the Ammonia Synthesis Iron Catalyst Activity). 15p. 15 refs. CID: 62-217.
Order from OTS, ETC or CID $0.80 62-29217

Trans. in Spanish of #Zhurnal Fizicheskoi Khimii (USSR) 1959, v. 33, no. 11, p. 2542-2547

DESCRIPTORS: Aluminum compounds, Potassium compounds, Oxides, *Iron catalysts, *Ammonia, Synthesis (Chemistry)

Landau, M. A.
THE ACTIVATION OF METALLIC CATALYSTS, 2. CHEMISORPTION ACTIVATION ENERGY AND CATALYTIC REACTION (Ob Aktivatsii Metallicheskikh Katalizatorov Soobshchenie 2: Energii Aktivatsii Khemosorbtsii i Kataliticheskoi Reaktsii) tr. by V. A. Solodukhin. [1963] [24]p. (foreign text included) 26 refs. [CSIRO] Trans. no. 6106.
Order from OTS or SLA $2.60 63-23410

Trans. of #Akad[emiya] Nauk SSSR. [Otdelenie] [Khimcheskikh Nauk]. Iz[vestiya] 1962, no. 5, p. 789-799.

DESCRIPTORS: *Catalysis, *Heat of activation, *Chemisorption, *Catalysts, Molecules, Energy, Metals, Acetylenes, Hydrogenation, Hydrogen, Deuterium, Isotopes, Exchange reactions, Transition elements, Mathematical analysis.

In the case of thermal activation of a metallic catalyst, the activation energies of chemisorption and catalytic reaction, determined from the Arrhenius plot, consist of two parts which are, respectively, the activation of the reacting molecules and the activation of the catalyst. The activation energy of the catalyst is equal to, or is a multiple of, the energy of the metal-metal cohesive linkage. This conclusion is corroborated by data relating to the hydrogenation of acetylene and to the isotope exchange of hydrogen and deuterium on the transition metals of the 4th period. (Author)

Natta, G., Bassi, I., and Corradini, P.
ON THE CHAIN STRUCTURE OF CRYSTALLINE POLYVINYL ISOBUTYL ETHER. [1963] 7p. (figs. omitted) 16 refs.
Order from SLA $1.10 63-14194

Trans. of Makromolekulare Chemie (Switzerland) 1955, v. 17, Dec, p. 455-462.

DESCRIPTORS: *Molecular structure, Crystal structure, *Acetal plastics, Ethers, Plastics.

The chain structure of crystalline polyvinyl isobutyl ether, prepared by a cationic catalysis mechanism, is discussed. The x-ray photo data are interpreted with the aid of the molecular transformation method, and it is concluded that the polymer is isotactic in the crystal phase (that is, the asymmetrical carbon atoms all have the same steric (space) configuration), and the polymer chain has a ternary helicoidal symmetry, (Type AB_3). A complete similarity of the molecular structure of the crystal polyvinyl isobutyl ether with that of the isotactic poly-5-methyl-hexene-1 is observed. The latter polymer was prepared by an anionic mechanism. (Author)

Okunev, A. I., Diev, N. P., and others.
EL PROBLEMA DE LA CINÉTICA DE LA OXIDACION DE LOS SULFUROS (K Voprosu o Kinetike Okisleniya Sul'fidov) (The Problem of the Oxidation Kinetics of Sulfurs). 12p. 6 refs.
CID: 62-252.
Order from OTS, ETC or CID $0.80 62-29252

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1955, v. 103, no. 5, p. 857-860.

DESCRIPTORS: *Oxidation, Sulfur, Reaction kinetics.

Pamfilov, A. V., Mushii, R. Ya., and Mazurkevich, Ya. S.
PHOTOCATALYTIC ACTIVITY OF ANATASE AND RUTILE. [1963] 7p. (figs. tables omitted) 22 refs.
Order from OTS or SLA $1.10 63-16533

Trans. of Ukrainskii Khimicheskii Zhurnal (USSR) 1962, v. 28, no. 5, p. 589-594.

DESCRIPTORS: *Titanium compounds, *Oxides, *Dioxides, *Photochemistry, Photoelectric effect, *Catalysis, Hydrolysis, Chlorides, Annealing.

The photocatalytic activity of rutile, obtained by the hydrolysis of titanium tetrachloride, is considerably higher than the activity of rutile, obtained by annealing anatase at high temperature. The activity of rutile, obtained by the hydrolysis of $TiCl_4$ and related to a unit of surface, almost coincides with the activity of anatase, also obtained from $TiCl_4$ by the precipitation of ammonia. Small admixtures of heavy metal increase the activity of titanium dioxide, while specimen containing more than 0.1% of heavy metal have a poisonous effect. Catalyzers having a high activity, possess a high photoelectromotive force, measured by the condenser method. (Author)

Pershke, V. K. and Kalinin, S. K.
PHYSICO-CHEMICAL DATA FOR THE VACUUM EVAPORATION OF MAGNESIUM CHLORIDE SOLUTION. [1963] [8]p. 4 refs.
Order from OTS or SLA $1.10 63-18110

Trans. of [Khimcheskaya Promyshlennost'] (USSR) 1932, v. 9, no. 12, p. 16-17.

DESCRIPTORS: *Magnesium compounds, *Chlorides, Solutions, *Evaporation, Vacuum systems, *Vapor pressure.

Petrova, G. L. and Bogdanov, G. A.
THE PROMOTING EFFECT OF COBALT ION ON THE CHROMATE ION CATALYSED DECOMPOSITION OF HYDROGEN PEROXIDE (Aktiviruyushchee Vliyanie Sul'fata Kobal'ta na Kataliz H_2O_2 Khromatami Natriya). July 63 [10]p. RTS-2269.
Order from OTS or SLA $1.10 63-23246

Trans. of Zhurn[al] Fiz[icheskoi] Khimii (USSR) 1958, v. 32, no. 10, p. 2324-2332.

DESCRIPTORS: *Hydrogen compounds, *Peroxides, Decomposition, Catalysis, Ions, *Chromates, *Cobalt.

The promoting effect of ions of the iron sub-group in the Periodic Table increases with decreasing atomic number of the element i.e. from nickel to iron. In acid solution, cobalt ions promote the sodium chromate catalysed decomposition of hydrogen peroxide. Hydrogen peroxide. Hydrogen ions have a characteristic effect on the decomposition rate. A comparison of the promoting effects of nickel and cobalt ions has shown (a) that a six-fold increase in cobalt and a tenfold increase in nickel ion concentration increased the rate of reaction 2.2 and 1.2 fold, respectively; (b) that the temperature coefficient, energy of activation, frequency factor increase with increasing temperature in the case of cobalt but pass through a well-defined minimum for nickel. The formation of intermediate cobalt perchromates was established by direct synthesis.

Popereka, M. Y.
INVESTIGATION OF INTERNAL STRESSES IN ELECTRODEPOSITS. Feb 62 [7]p. (figs. formulae omitted) 2 refs. [DSIR] NLL M.3776.
Order from OTS or SLA $1.10 63-19782

Trans. of #Zavod[skaya] Lab[oratoriya] (USSR) 1961, v. 27, no. 9, p. 1135-1138.

DESCRIPTORS: *Electrodeposition, Cathodes, Stresses, *Metal coatings, Electrolysis.

A description is given of a new method and apparatus for determining internal stresses in electrodeposits, employing the extension or compression of a strip cathode. Formulae are derived for calculating the actual deposition stresses, on the basis of cathode elongation, and the residual stresses in a layer of coating. It is shown that the actual deposition stresses change during the electrodeposition process according to a complex law which depends on electrolysis conditions. (Author)

Rempel', S. I., Anisheva, N. A., and Khodak, L. P.
A REFERENCE GAS ELECTRODE FOR MEASUREMENTS IN CRYOLITE-ALUMINA MELTS [Gazovyi Elektrod Srabneniya dlya Izmerenii v Kriolite-Glinozemnykh Rasplavakh]. [1962] 5p. 5 refs.
Order from OTS or SLA $1.10 63-15789

Trans. of Akademiya Nauk SSSR. Doklady, 1954, v. 97 [no. 5] p. 859-862.

DESCRIPTORS: *Cryolite, *Aluminum compounds, Oxides, Melting, Electrodes, Gases, Measurement.

Rode, T. V. and Dobrynina, T. A.
A THERMAL ANALYSIS OF LITHIUM PEROXIDE. [1963] 6p. 15 refs.
Order from OTS or SLA $1.10 63-18460

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 91, no. 1 [p. 125-127].

DESCRIPTORS: *Thermochemistry, *Lithium compounds, *Peroxides, Decomposition, Reaction kinetics, *Calorimetry, X-ray diffraction analysis.

A thermographic investigation (heating and cooling curves) of lithium peroxide was performed under different conditions. The decomposition kinetics of this compound on heating were examined. X-ray patterns were obtained from the starting compounds and from preparations heated to various temperatures for recording the thermal effects on the thermograms. The presence of two modifications of lithium peroxide was established; α-Li_2O_2, stable to 225° and β-Li_2O_2, stable on heating at 6°/min. to 300-315°, when it decomposes.

Roginskii, S. Z.
RELATION ENTRE LES PROPRIÉTÉS ÉLECTRONIQUES D'UN CORPS SOLIDE ET SON POUVOIR CATALYTIQUE (Relation between the Electronic properties of Solids and their Catalytic Activity). 4p. 3 refs.
Order from OTS, ETC or CNRS $0.80 62-26497

Trans. in French of Akademiya Nauk SSSR. Doklady, 1949, v. 67, no. 1, p. 97-99.

DESCRIPTORS: *Solids, *Electrons, *Catalysis, Theory.

Rozovskii, A. Ya.
KINETICS OF REACTIONS WITH THE PARTICIPATION OF SOLID PHASE. I. KINETIC EQUATIONS AND THE DETERMINATION OF SPECIFIC RATES OF REACTIONS. [1963] 21p. figs. formulae omitted, 33 refs.
Order from OTS or SLA $2.60 63-18485

Trans. of Kinetika i Kataliz (USSR) 1962, v. 3, no. 6, p. 894-906.

DESCRIPTORS: *Catalysts, *Iron catalysts, *Crystallization, Chemical reactions, *Reaction kinetics, Equations, Models (Simulations), Surfaces, Phase studies, Solids.

The paper discusses the kinetics of topochemical reactions for various empiric laws of grain formation and for various shapes of the grains. The kinetic equations are presented in a form suitable for the evaluation of experimental data. A straight-forward method is proposed for the determination of the specific rates of topochemical reactions with various kinetic mechanisms; the method permits the comparison of the reaction rates and of other kinetic parameters of the process. As an example for the applicability of the method the evaluation of experimental data of the water acidification of iron catalysators used in synthesis from C and H oxides is presented. (Author)

Rubinchik, Ya. S., Pavlyuchenko, M. M., and Tsybulko, I. A.
APPLICATION OF REFLECTION SPECTROPHOTOMETRY TO THE STUDY OF THE REACTION OF MgO WITH Fe_2O_3. [1963] 5p. 6 refs.
Order from OTS or SLA $1.10 63-18152

Trans. of Akadem[iya] Na[v]uk BSSR, Minsk. Doklady, 1963, v. 7, no. 1, p. 30-32.

DESCRIPTORS: *Iron compounds, Oxides, *Ferrites, *Magnesium compounds, Quantitative analysis, *Powder metals, Reaction kinetics, *Spectroscopy.

A study was made of the reflection spectrum method for determining the quantitative reaction of iron oxide which leads to the formation of magnesium ferrite. Spectrophotometric determination was carried out with mixtures of Fe_2O_3 + MgO, annealed at 1000°C for 30, 45 and 60 minutes and 1100°C for 30, 45, 60, 240 and 480 minutes. The data obtained was compared with the results of chemical analysis. The results indicate that reflection spectrophotometry gives accurate results in the study of the reaction kinetics of magnesium ferrite formation.

Samec, M.
INFLURNCE OF CRYSTALLOIDS ON PASTE FORMATION. [1963] 11p. 10 refs.
Order from SLA $1.60 63-16626

Trans. from unidentified mono., n.p., n.d.

DESCRIPTORS: *Starches, *Gels, Temperature, Salts, Chlorides, Potassium compounds.

Sano, I., Fujitani, Yoshiyasu, and Sakata, Sadahiro.
COLLOID CHEMISTRY OF TOBACCO SMOKES: DISTRIBUTION OF SIZE AND CHARGE OF THE PARTICLES. [1963] 7p. (figs. omitted) 7 refs.
Order from SLA $1.10 63-16393

Trans. of [Nihon Kagaku Zasshi] (Japan) 1953, v. 74, p. 664-668.
Another trans. is available from SLA as 58-849.

DESCRIPTORSL: Particles, *Particle size, *Charged particles, *Smokes, *Tobacco, Colloids, Chemistry.

A study was made of tobacco smoke particles from the points-of-view of the radius of the particle, the specific gravity of the particle and, the volume of

electrical charge on the particle. It was shown that, with one exception, all cigarettes contained a larger number of particles charged with negative electricity than with positive. Where a smoke passed through water both the number of particles charged with positive current and the volume of the charge were small. As time lapsed both the number of particles charged with positive current and the volume of the charge increased.

Sano, I., Fujitani, Yoshiyasu, and Sakata, Sadahiro.
A COLLOID STUDY OF TOBACCO SMOKE: PARTICLE SIZE DISTRIBUTION AND ELECTRIC CHARGE. [1963] 10p. (figs. omitted) 7 refs.
Order from SLA $1.10 63-16447

Trans. of [Nihon Kagaku Zasshi] (Japan) 1953, v. 74, p. 664-668.
Other translations are available from SLA as 58-838 and 58-849 and $1.10 as 63-16393 [1963] 7p.

DESCRIPTORS: Particles, *Particle size, *Smokes, *Tobacco, Colloids.

Shcherbakov, I. G. and Yumanova, L. V.
CONCERNING CATHODIC PROCESS OF FORMATION OF DIAPHRAGMIC LAYERS (CONTRIBUTION TO THEORY OF ELECTROLYSIS OF MELTS): DIAPHRAGMIC LAYERS IN ELECTROLYSIS OF AQUEOUS SOLUTIONS IN MOLTEN MEDIA (O Katodnom Protsesse pri Obrazovanii Diafragmiruyushchego Sloya (K Teorii Elektroliza Rasplavov) Diafragmiruyushchii Sloi pri Elektrolize Vodnykh Rastvorov i Rasplavlennykh Sred). [1963] [14]p. (foreign text included) 4 refs.
Order from OTS or SLA $1.60 63-18130

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1939, v. 12, no. 6, p. 826-830.

DESCRIPTORS: *Electrochemistry, *Fused materials, Salts, *Magnesium compounds, *Potassium compounds, *Sodium compounds, *Chlorides, Electrolysis, *Cathodes (Electrolytic cells), *Thin films.

There are described the processes occurring under the formation of a diaphragmic layer in the electrolysis of molten salts and bringing about considerable deviations from the law of Faraday. (Author)

Shcherbakov, I. G. and Yumaneva, L. V.
THE THEORY OF HYDROLYSIS OF CHLORIDES: THE MINIMUM HYDROLYSIS OF MAGNESIUM CHLORIDE IN THE DRYING OF ITS HYDRATES. [1963] 25p. 12 refs.
Order from OTS or SLA $2.60 63-18109

Trans. of Kalii (USSR) 1934, no. 8, p. 37-43.

DESCRIPTORS: *Magnesium compounds, *Chlorides, Hydrolysis, Theory, *Hydrates, Dehydration.

Shneerson, A. L. and Leibush, A. G.
ABSORPTION OF CARBON DIOXIDE BY ETHANOLAMINES. I. THE RATE OF ABSORPTION OF CARBON DIOXIDE BY SOLUTIONS OF MONO-, DI- AND TRIETHANOLAMINE (Absorbtsiya Uglekisloty Etanolaminami. I. Skorost' Absorbtsii Uglekisloty Rastvorami Mono-, Di- i Trietanolamina). May 63 [20]p. 17 refs. RTS-2275.
Order from OTS or SLA $1.60 63-23235

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, no. 9, p. 869-879.
Other translations are available from OTS or ETC $1.91 as 61-17837, MTWL-171, 23p. and from ATS as RJ-14.

DESCRIPTORS: *Carbon dioxide, *Ethanols, *Amines, Solutions, Absorption.
The increase in the degree of conversion of ethanolamines to carbonate induces decreases in the coefficient of absorption ($K_g\alpha$). Increases in the CO_2 content in the gas decreases $K_g\alpha$. Increases in the rate of flow of the liquid increases the value of $K_g\alpha$. Changes in the rate of flow of the gas have no marked effect on the coefficient of absorption. With increasing ethanolamine concentration the value of $K_g\alpha$ passes through a maximum. Increases in the temperature of the absorbed solutions from 25 to 50° C causes increases in the coefficient of absorption. Further increases in the temperature to 75° C affect $K_g\alpha$ only insignificantly. Under otherwise equal conditions $K_g\alpha$ is 2-2.5 times higher for monoethanolamine solutions and 20-30 times higher than for triethanolamine solutions. (Author)

Sinani, S. S. and Khudyakov, V. N.
PHYSICOCHEMICAL ANALYSIS IN TECHNOLOGY OF MINERAL SALTS: SYSTEM OF SODIUM CARBONATE, POTASSIUM CARBONATE AND WATER AT LOW TEMPERATURES. [1963] 16p. 7 refs.
Order from OTS or SLA $1.60 63-18055

Trans. of Gosudarstvennyi Institut Prikladnoi Khimii. Trudy (USSR) 1935, v. 23, p. 100-109.

DESCRIPTORS: *Carbonates, *Potassium compounds, *Sodium compounds, Temperature, Water, Minerals, Salts, Chemical analysis, Low temperature research.

Sovershennyi, V. D. and Tirskii, G. A.
SUBLIMATION OF A SOLID IN THE ENVIRONS OF A CRITICAL POINT IN A PLANE AND AXISYMMETRIC GAS FLOWS. 16 May 63 [18]p. 2 refs. AID rept. T-63-68. AD-404 910.
Order from OTS or SLA $1.60 63-19582

Trans. of paper presented at the Conference on Heat and Mass [Transfer] Minsk [5-10] June 61.

DESCRIPTORS: *Sublimation, *Solids, *Gas flow, Phase studies, Axially symmetric flow, Numerical analysis, Boundary value problems.

There is obtained an exact solution for the sublimation of a solid in the environs of a critical point in a plane and axisymmetric flows of an incompressible gas.

Finite ratios were established for determining the concentration and temperature of a sublimation wave. Curves are plotted to determine the rates of advance of the sublimation front. (Author)

Sutyagina, A. A. and Gorbunova, K. M.
INVESTIGATION OF THE PROCESS OF ELECTRODEPOSITION OF SOME METALS IN THE PRESENCE OF SULPHUR-CONTAINING SURFACE-ACTIVE ADDITIONS. II. THE EFFECT OF ELECTROLYSIS CONDITIONS ON THE AMOUNT OF IMPURITIES IN NICKEL DEPOSITS AND THE PROPERTIES GOVERNED BY THEM. Feb 62 [15]p. (figs. tables omitted) 26 refs. [DSIR] NLL M. 3766.
Order from OTS or SLA $1.60 63-19791

Trans. of #Zhur[nal] Fiz[icheskoi] Khim[ii] (USSR) 1961, v. 35, no. 11, p. 2514-2523.

DESCRIPTORS: Additives, Surface-active substances, Sulfur, Metals, *Electrodeposition, *Nickel, *Impurities, *Electrolysis.

A comparison of data on the sulphur and carbon contents of nickel obtained by electrolysis from solutions with additions of some sulphur-containing compounds leads to the conclusion that these compounds react chemically with the surface of the metal being reduced, with the formation of sulphides which are responsible for the specific character of the resultant deposits. During the anodic dissolution of nickel, a nickel-sulphide phase is produced, in which the sulphur-to-nickel ratio exceeds the ratio of these elements in the sulphide with the highest sulphur content (NiS_2). As a result of heating of the original metallic deposit, phases with lower sulphur contents are formed in consequence of reaction between primary nickel sulphides and metallic nickel. The phase transformations occuring during heating were confirmed by results of a thermographic investigation. In an X-ray investigation, the presence of marked disturbances in the crystal lattice of nickel was established, the extent of these distrubances depending on the amount of sulphur in the deposits. Data are given on the brightness and hardness of nickel deposits with different sulphur contents. (Author)

Takahashi, Tōru.
CALCULATION OF THE VAPOR-LIQUID EQUILIBRIUM FOR THE AMMONIA-CARBON DIOXIDE GAS-WATER SYSTEM BY VAN LAAR'S EQUATION. Rept. 2 of Phase Equilibrium Studies on the Ammonia-Carbon Dioxide Gas-Water System. [1962] 22p. 27 refs.
Order from SLA $2.60 63-10083

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 6, p. 837-843.

DESCRIPTORS: *Phase studies, *Chemical equilibrium Ammonia, Carbon dioxide, Water, Carbamates, Vapors, Liquids, Determination, Activity coefficient.

Temkin, M. I.
CINÉTIQUE DE LA SYNTHÈSE DE L'AMMONIAQUE AUX HAUTES PRESSIONS (Kinetics of Ammonia Synthesis under High Pressures). 22p. 16 refs.
Order from OTS, ETC or CNRS $0.86 62-26906

Trans. in French of Zhurnal Fizicheskoi Khimii (USSR) 1950, v. 24, no. 11, p. 1312-1325.
Other translations are available in English from OTS or SLA $2.60 as 62-16039, 19 Mar 52 [26]p. and in Dutch from OTS or ETC $1.89 as 61-17155, MTWL-523, 23p.

DESCRIPTORS: *Ammonia, High pressure research, Chemical reactions, Kinetic theory, Synthesis

Tomashov, N. D. and Mikhailovskii, Yu. N.
ELECTROCHEMICAL KINETICS OF CORROSION PROCESSES UNDER ADSORBED FILMS OF MOISTURE (Elektrokhimicheskaya Kinetika Korrozionnykh Protsessov pod Adsorptsionnymi Plenkami Vlagi) tr. by Lydia Venters. Feb 62 [10]p. 11 refs.
Order from OTS or SLA $1.10 AEC-tr-5003

Trans. of [Soveshchanie po Elektrokhimii] (no. 4) Moscow, 1-6 Oct 56 (Conference on Electrochemistry (no. 4) Moscow, 1-6 Oct 56). Trudy, 1959, p. 638-645.

DESCRIPTORS: Moisture, Films, Adsorption, *Corrosion, Absorption (Physical), *Electrochemistry, Atmosphere, Humidity, Quantitative analysis, *Conferences.

An investigation was made of the electrochemical behavior of a series of metals under the absorption films of moisture. The shares of the cathode, anode, and ohmic control in the operation of the corrosion element in an atmosphere with humidity up to 100% was determined quantitatively. Cu, Zn, Fe, and Al foils were used as research electrodes. The potentials of all metals, investigated during the process of their maintenance in a humid atmosphere, improved. Anode polarization capacity of the metals increased substantially when the humidity of the air decreased. When the humidity of the air decreased the cathode polarization also increased. Graphs are included. (AEC abstract)

Trubman, S. V.
A METHOD OF P LATING PARTS OF COMPLEX CONFIGURATION WITHOUT THE USE OF SHAPED ANODES. Apr 62 [7]p. 13 refs. [DSIR] NLL M. 3773.
Order from OTS or SLA $1.10 63-19785

Trans. of #Zhur[nal] Prikl[adnoi] Khim[ii] (USSR) 1962, v. 35, no. 2, p. 452-455.

DESCRIPTORS: *Anodes, Configuration, Geometric forms, *Plating, *Electrolytic polishing.

It was shown that, under the same electrodeposition conditions, the distribution of chromium deposits on electropolished components is more uniform than on mechanically-polished ones. It was found that a more uniform distribution of force lines during chromium plating on the surface of complex-shaped components is possible without the use of shaped anodes, as a result of prior electropolishing of these components under certain specific conditions. The effect of the process of decrystallization of metals on the subsequent process of chromium crystallization during electrodeposition was determined. It was shown that, in the case of electropolishing of steel, the process of anodic dissolution may take place according to the scheme proposed by Vozdvizhenskii and co-workers. (Author)

Usanovich, M. , Klimov, V. and others.
SOBRE LA DISOCIACION ELECTROLITICA DE LOS COMPUESTOS COMPLEJOS DE ESTAÑO Y ANTIMONIO (Ob Elektroliticheskoi Dissotsiatsii Kompleksnykh Soedinenii Olova i Sur'my) (On Electrolytic Dissociation of Tin and Antimony Complex Compounds). 6p. 8 refs. CID: 62-249.
Order from OTS, ETC or CID $0.80 62-29249

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1957, v. 113, no. 2, p. 364-365.

DESCRIPTORS: *Tin compounds, *Antimony compounds, Complex compounds, Electrolytes, Decomposition.

Winkel, A. and Haul, R.
THE FORMATION OF SURFACE OXIDE LAYERS. I. INACTIVATION OF PYROPHORIC IRON AEROSOLS BY SURFACE OXIDE FILMS (Über den Aufbau von Oberflächenoxydschichten (I). Inaktivierung von Pyrophoren Eisenaerosolen durch Oberflächenoxydfilme). [1963] [28]p. (foreign text included) 26 refs.
Order from SLA $2.60 63-16768

Trans. of Z[ei]tschr[ift] für Elektrochemie (Germany) 1938, v. 44, no. 9, p. 611-619.

DESCRIPTORS: *Films, *Aerosols, *Iron, *Oxides, *Pyrophoric materials, Inhibition, Metal powders, Surfaces, Heat treatment, Particle size.

Yanat'eva, O. K.
SOLUBILITY, VISCOSITY, AND SPECIFIC GRAVITIES IN QUATERNARY AQUEOUS SYSTEMS OF ALKALI AND ALKALINE-EARTH METAL CHLORIDES (Rastvorimost', Vyazkost' i Udel'nye Vesa v Chetvernykh Vodnykh Sistemakh iz Khloridov Shchelochnykh i Shchelochno-Zemel'nykh Metallov). [1963] [13]p. (foreign text included) 4 refs.
Order from OTS or SLA $1.60 63-16991

Trans. of Zhurnal Obshchei Khimii (USSR) 1947, v. 17, no. 6, p. 1043-1046.

DESCRIPTORS: *Alkali metal compounds, *Alkaline earth compounds, *Chlorides, Solubility, Viscosity, Density, Solutions, Welding, Fluxes (Fusion).

Solubility, viscosity and specific gravities in the systems: NaCl — KCl — LiCl — H_2O, NaCl — KCl — $CaCl_2$ — H_2O and NaCl — KCl — $BaCl_2$ — H_2O were studied at 0, 25 and 50°. No chemical compounds were found to form in the aqueous systems in distinction from the fusibility diagrams of these very salts. It was shown that the influence of the lithium, calcium and magnesium chlorides, in distinction from that of barium upon the co-solubility of the sodium and potassium chlorides, manifests itself in a marked decrease of solubility of the latter. The results obtained, together with the data on the solubility of these salts, give a complete idea of behaviour of the new saline alloys — fluxes in the process of gas welding of metallic articles. (Author)

EARTH SCIENCES

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 253 (EARTH SCIENCES SERIES). 6 Aug 63, 35p. JPRS: 20504.
Order from OTS $1.00 63-31458

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia, Hungary and Rumania.

DESCRIPTORS: *Abstracts, *Geophysics, Political science, Geography, Scientific personnel, Climatology, Meteorology, Solar radiation, Ecology, Mapping, Agriculture, Geology, Transportation, Photography, Education, Bibliographies, Photogrammetry, Urban areas, Surveying, Biographies, Geometry, Soils, Cuba, Earthquakes, Paleontology, Textbooks, Africa, *Czechoslovakia, *Hungary, *Rumania.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 270 (EARTH SCIENCES SERIES). 16 Aug 63, 8p. JPRS: 20676.
Order from OTS $0.50 63-31548

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia.

DESCRIPTORS: *Abstracts, *Geophysics, *Czechoslovakia, Range finding, Photogrammetry, Biographies, Geodesics, Optical equipment, Meteorology, Atmospheric precipitation, Mountains, Diurnal variations, Barometric pressure, Climatology, Wind.

PHYSICS OF EARTHQUAKES AND EXPLOSION SEISMOLOGY (Fizika Zemletryasenii i Seismika Vzryvov). 2 Aug 63, 558p. 272 refs. JPRS: 20465.
Order from OTS $7.00 63-31437

Trans. of [Akademiya Nauk SSSR]. Institut Fiziki Zemli. Trudy, 1962, no. 25 (192) p. [3]-360.

DESCRIPTORS: *Seismology, *Earthquakes, *Earthquake warning systems, Seismographs, Magnetic recording systems, Calibration, Oscillators, Oscillator circuits, *Galvanometers, Semiconductor devices, Seismological stations, Explosions, *Seismic waves Oscillations, Frequency, Velocity, Energy, Absorption, Soils, Geology, Earth.

Contents:
Preface
Possibilities of calculating maximum earthquakes, by Yu. V. Riznichenko
Automatic seismic set equipped with intermediate magnetic recording (ASSIMR), by G. I. Aksenovich and B. A. Serdii
Calibration and inspection of seismic sets by an electrodynamic method, by M. A. Gostev
Possibility of using reactance to reduce the eigenfrequency of a galvanometer, by V. D. Pavlov

Certain auxiliary devices on the KSE seismic sets, by G. I. Aksenovich and B. A. Serdii

Method of estimating the spectral composition of seismic fluctuations based on recordings of a frequency-selective station (FSS), by V. I. Khalturin

Comparison of averaged spectra at various stations for deep and shallow earthquakes based on frequency-selective station (FSS) data, by A. A. Zhigal'tsev

Substantiation for calculating the energy density by the method of approximation of seismograms by sine curve segments, by T. G. Rautyan and L. S. Samoilova

Dependence of predominant frequencies upon size of explosive charge, by I. L. Nersesov and A. V. Nikolaev

Estimate of the absorption of longitudinal and traverse waves in the earth's crust from observations of local earthquakes, by V. I. Khalturin and N. B. Urusova

Some results of a study of changes in the speeds of longitudinal waves and the ratio of the speeds of longitudinal and transverse waves in the focal zone, by A. M. Kondratenko and I. L. Nersesov

The change in the velocities of seismic waves in the region of the formation of an earthquake focus, by G. I. Gurevich

Problems of detailed study of seismic characteristics of soils in natural bedding, by A. V. Nikolaev

Some features of earthquake recordings compared with ground conditions, by E. N. Sedova

Methods for interpreting neighboring earthquakes, by S. S. Andreeve

A detailed study of the seismicity of the Northern T'ien Shan, by I. V. Gorbunova

Dynamic characteristics of transformed waves, by A. A. Zhigal'tsev

Thickness of the earth's core in the Altai and its relation to the tectonic zone, by S. I. Masarskii and F. S. Moiseenko.

Climatology and Meteorology

Astapenko, P. D.
JET STREAMS OVER THE WEST ANTARCTIC DURING MERIDIONAL AND ZONAL CIRCULATIONS. [1963] [8]p. (figs. omitted) 6 refs. DSIR NLL M. 3810.
Order from OTS or SLA $1.10 63-19754

Unedited trans. of Problemy Artiki i Antarktiki (USSR) 1960, no. 6, p. 14-26.

DESCRIPTORS: *Jet streams (Meteorology), *Antarctic regions, Wind, Troposphere, Stratosphere, Meteorology.

The data of jet streams observed at Western Antarctic stations during 1958 and compiled at the International Antarctic Weather Centre in Little America are generalised. (Author)

Baidal, M. [G.].
LONG-PERIOD FEATURES OF ATMOSPHERIC CIRCULATION AND THE PHENOMENA CONNECTED WITH THEM. 12 Dec 60 [15]p. (figs. tables omitted) 10 refs. Trans. no. 80; [DSIR] NLL M. 3828.
Order from OTS or SLA $1.60 63-19919

Unedited trans. of Kazak[hskii] Nauch[no]-Issled[ovatelskii] Gidromet[eorologicheskii] Institut[ut]. Trudy (USSR) 1959, v. 10, p. 73-81.

DESCRIPTORS: *Atmospheric motion, Solar radiation, Meteorological phenomena, Climatology, Meteorology.

Baidal, M. Kh.
FORECASTING VALUE OF CHARTS OF THE INTEGRATED PRESSURE DEVIATION FROM NORMAL, tr. by R. F. Zobel. [1963] [7]p. (figs. omitted) 2 refs. DSIR NLL M. 3745.
Order from OTS or SLA $1.10 63-19812

Unedited trans. of Kazak[hskii] Nauch[no]-Issled[ovatel'skii] Gidromet[eorologicheskii] Inst[itut]. T[rudy] (USSR) 1960, v. 15, p. 73-79.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, *Meteorological charts, Air mass analysis, Meteorology, Cyclones, Anticyclones.

The value is demonstrated for forecasting of integrated pressure deviation charts and of their changes (Isallo-integrated charts) on the basis of the wave-like nature of atmospheric processes. Certain rules are advanced for finding the location of the main cyclonic and anti-cyclonic centers during the next 3 - 5 days and longer. (Author)

Bel'skaya [N. N.].
A TRIAL OF NEW METHODS OF FORECASTING THE MOVEMENT AND DEVELOPMENT OF PRESSURE SYSTEMS, tr. by S. A. Crawford. Sep 61 [18]p. (figs. omitted) 4 refs. DSIR NLL M. 3809.
Order from OTS or SLA $1.60 63-19753

Trans. of [Tsentral'nyi Institut Prognozov]. Trudy (USSR) 1960, v. 95, p. 3-31.

*Weather forecasting, *Barometric pressure, Meteorological charts, Motion, *Anticyclones, Air mass analysis, Meteorology.

Dikii, L. A.
THE REDUCTION IN ACCURACY OF NUMERICAL FORECASTS OF THE PRESSURE FIELD AS A RESULT OF FICTITIOUS BOUNDARY CONDITIONS. 22 Mar 63 [8]p. (figs. tables omitted) 2 refs. [DSIR] NLL M. 3843.
Order from OTS or SLA $1.10 63-19904

Unedited trans. of Tsent[ral'nyi] Inst[itut] Progn[ozov] Trudy (USSR) 1960, v. 106, p. 37-44.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, Numerical methods and procedures, Numerical analysis, Meteorology, Errors, Boundary layer.

Duskin, P. K. and Lomonosov, E. G.
RESULTS OF FORECASTING THE PRESSURE FIELD AT THREE LEVELS USING A CALCULATING MACHINE. 21 Mar 62 [10]p. (figs. tables omitted) 2 refs. [DSIR] NLL M. 3844.
Order from OTS or SLA $1.10 63-19903

Unedited trans. of Tsent[ral'nyi] Inst[itut] Progn[ozov]. Trudy (USSR) 1960, v. 106, p. 20-31.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, Atmosphere models, Computers, Numerical analysis, Meteorology.

A baroclinic system of forecasting, even within the framework of the usual physical approximations (quasi-geostrophic state, quasi-static state, adiabatic state) permits a fairly good forecast to be made of the development and modification of the pressure field, and of cyclo and anti-cyclo-genesis. It can be used not only for theoretical investigation of the dynamics of the change of pressure in the real atmosphere but also in actual practice. The forecasting system put forward can be greatly improved mathematically; it has this advantage that with only one replacement of the weighting factors it enables the temperatures to be calculated in passing, along with the computation of the pressure field and the field of vertical velocity, without any great change in the computer programme. The extension of the forecast area to the whole of the northern hemisphere must greatly improve the forecasting possibilities of a three-level model. (Author)

Konstantinov, A. R.
THE BASIS OF METHODS FOR CALCULATING EVAPORATION FROM ROUTINE MEASUREMENTS OF METEOROLOGICAL STATIONS (Obosnovanie Metodiki Rascheta Ispareniya po Dannym Meteorologicheskikh Stantsii). 1963, 77p. 43 refs. PL-480 Agr.
Order from OTS $0.75 63-11015

Trans. of Gosudarstvennyi Gidrologicheskii Institut. Trudy (USSR) 1956, v. 54, p. 5-74.

DESCRIPTORS: Meteorology, *Evaporation, *Weather stations, Atmospheric temperature, Humidity, Heat transfer coefficients, Equations, Meteorological data, Mathematical analysis, *Meteorological phenomena.

Contents:
Analysis of temperature and humidity profiles over uniform ground surfaces
Formulas for the calculation of exchange coefficients for evaporation and turbulent heat between natural surfaces and the atmosphere
Formulas and graphs for calculation of the exchange coefficient, turbulent heat exchange and evaporation from a soil surface on the basis of data of periodical observations at meteorological stations.

Laikhtman, D. L. and Shnaidman, V. A.
CRITERIA FOR THE TURBULENCE OF JET STREAMS, tr. by R. F. Zobel. [1963] [4]p. 2 refs. [DSIR] NLL M. 3871.
Order from OTS or SLA $1.10 63-19881

Unedited trans. of Meteorologiya i Gidrologiya (USSR) 1960, no. 12, p. 11-13.

DESCRIPTORS: *Jet streams (Meteorology), *Atmospheric motion, Meteorology, Numerical analysis.

Lebedev, A. N. and Saltykova, L. A.
A METHOD OF CALCULATING THE DURATION OF PRECIPITATION, tr. by J. Grindlev. [1963] 13p. (figs. tables omitted) 8 refs. [DSIR] NLL M 3983.
Order from OTS or SLA $1.60 63-19848

Unedited trans. of Glav[naya] Geof[izicheskaya] Obs[ervatoriya] Leningrad. T[rudy] (USSR) 1961, no. 122[184] p. 48-60.

DESCRIPTORS: *Atmospheric precipitation, *Weather forecasting, Meteorological data, Meteorological charts, Climatology, Meteorology.

It is not possible to obtain an absolutely accurate representation of precipitation duration until data are available from a meteorological network. Values of precipitation duration, computed from pluviograph charts, visual observations and by Köppen's formula can differ essentially. The smallest durations are obtained from pluviograph recordings, the largest-empirically, from Köppen's formula. At the present time it is most satisfactory to use data from visual observations of duration for climatological investigations. For investigating precipitation duration the construction of computing graphs, which reveal the structure of the element, is recommended. (Author)

Lu, Wu.
METEOROLOGY IN THE SERVICE OF AGRICULTURE. 23 July 63, 12p. JPRS: 20302. NASA N63-19521.
Order from OTS $0.50 63-31359

Trans. of Kitai (Chinese People's Republic) 1963, no. 5, p. 6-9.

DESCRIPTORS: *Agriculture, *Meteorology, China.

Mineeva, M. N.
ON FORECASTING THE FORM OF PRECIPITATION AT THE EARTH'S SURFACE, tr. by R. F. Zobel. [1963] [8]p. (figs. omitted) 1 ref. [DSIR] NLL M. 3822.
Order from OTS or SLA $1.10 63-19741

Unedited trans. of Tsent[ral'nyi] Inst[itut] Progn[ozov]. T[rudy] (USSR) 1959, v. 83, p. 28-38.

DESCRIPTORS: *Atmospheric precipitation, *Weather forecasting, Atmospheric temperature, Air mass analysis, Meteorology.

The article gives an account of Popova's results taken from her paper "On the question of the constituents of precipitation". It also gives the results of a trial of her method of predicting the form of precipitation. (Author)

Ovchinnikova, A. I.
COMPARISON OF DIFFERENT METHODS OF CALCULATING EVAPORATION, tr. by J. Grindley. [1963] [7]p. 5 refs. [DSIR] NLL M. 3846.
Order from OTS or SLA $1.10 63-19901

Unedited trans. of Leningrad U. Vestnik (USSR) 1960 [v. 15] no. 24 [Seriya Geologii i Geografii no. 4] p. 139-143.

DESCRIPTORS: *Evapotranspiration, *Evaporation, Earth, *Meteorological parameters, Meteorological charts, Numerical analysis.

Polyakov, E. A. and Tretyakov, V. D.
VISIBILITY IN FALLING SNOW. [1963] [6]p. (figs. tables omitted) 2 refs. Trans. no. 89. [DSIR] NLL M. 3820.
Order from OTS or SLA $1.10 63-19744

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1960, no. 100[162] p. 53-57.

DESCRIPTORS: *Snow, *Atmospheric precipitation, Intensity, *Visibility, Meteorological instruments, Measurement, Statistical functions, Statistical analysis.

A correlation coefficient between transparency and intensity of snowfall is obtained by comparing the data from a transparency recorder and a precipitation recorder, which is based on a balance principle. A high coefficient of correlation (0.09 ± 0.02) permits one to regard the intensity of snowfall as the main factor determining transparency in the snowfall zone. A table is calculated for practical use particularly in forecasting visibility in snowfall. (Author)

Pühringer, A.
ELECTROMAGNETIC INDUCTION AS A BASIS FOR A THUNDERSTORM THEORY. 19 Aug 63, 7p. (fig. omitted) 11 refs. JPRS: 20686; NASA N63-19729.
Order from OTS $0.50 63-31556

Trans. of Archiv für Meteorologie, Geophysik und Bioklimatologie. Series A: Meteorologie und Geophysik (Austria) 1961, v. 12, no. 2, p. 262-270.

DESCRIPTORS: *Electromagnetic properties, *Thunderstorms, *Atmospheric electricity, Clouds, Meteorology, Theory, Inductance.

A discussion of the historical development of thunderstorm research and a survey of the existing thunderstorm theories with reference to the physical possibilities of generating electrical potentials is given. Electromagnetic induction has hitherto not been used to explain the electricity of thunderclouds. It is shown that a theory on this basis may render quantitatively satisfactory results. Various general features of thunderstorms which follow from this theory are in agreement with observations. The new thunderstorm theory is offered for discussion and measurements are proposed which should decide on its validity. (Author)

Selezneva, E. S. and Churinova, M. P.
SOME CHARACTERISTICS OF THE ATMOSPHERE FAVOURABLE TO CUMULUS AND CUMULO-NIMBUS CLOUDS, tr. by R. F. Zobel. [1963] [16]p. (figs. omitted). DSIR NLL M. 3744.
Order from OTS or SLA $1.60 63-19813

Unedited trans. of Glav[naya] Geof[izicheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1960, no. 102 [164] p. 3-20.

DESCRIPTORS: *Cumulus clouds, *Cumulonimbus clouds, Clouds, Meteorological parameters, Humidity, *Atmospheric condensation, Meteorology.

The main features of the state of the atmosphere when convective clouds develop were studied in relation to aerological observations at three places (Leningrad, Moscow and Kiev). A relationship between the development of these clouds and humidity in the 0.5 - 5 km layer is obtained and this may have a forecasting value. (Author)

Trubnikov, B. N.
THE THREE-DIMENSIONAL PROBLEM OF A VERTICALLY UNLIMITED AIR CURRENT CROSSING AN ELEVATION. June 61 [5]p. (figs. omitted) 5 refs. Trans. no. 102; [DSIR] NLL M. 3831.
Order from OTS or SLA $1.10 63-19916

Unedited trans. of Akad[emiya] Nauk SSSR. Doklady 1959, v. 129 [no. 4] p. 781-784.
Another trans. is available from AGI $8.00.

DESCRIPTORS: *Atmospheric motion, Wind, Mountains, Convection, Numerical analysis, Meteorology.

Tyutnev, Ya. A.
SIMPLIFIED METHOD FOR ESTIMATION OF HEAT BALANCE OF THE SEA SURFACE. 12 June 62 [7]p. (figs. tables omitted) 7 refs. Trans. no. 146(M); [DSIR] NLL M. 3887.
Order from OTS or SLA $1.10 63-19951

Unedited trans. of Meteorolog[iya] i Gidrologiya (USSR) 1961, no. 2, p. 36-40.

DESCRIPTORS: *Surface temperatures, *Oceans, Solar radiation, Absorption, Equations, Measurement, Meteorology, Marine meteorology.

Vitel's, L. A.
LONG-PERIOD VARIATION IN THE FREQUENCY OF FORMS OF ATMOSPHERIC CIRCULATION AND CIRCULATION CHANGES CONNECTED WITH SOLAR ACTIVITY. [1963] 16p. (figs. omitted) 11 refs. [DSIR] NLL M. 3707.
Order from OTS or SLA $1.60 63-19843

Unedited trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) 1960, v. 90(152) [p. 95-115].

DESCRIPTORS: *Solar radiation, *Atmospheric motion, Climatology, Meteorology, Periodic variations.

A study was made of all the changes in circulation according to G. Ja. VANGENGEJM for the period 1891 to 1957. Long-period fluctuations in the frequency of

circulation changes of various types have been considered in relation to fluctuations in the forms of circulation and to fluctuations in solar activity. The influence of solar activity was also studied in relation to fluctuations with cycles of 22-23 years, 11 years and 5-6 years. (Author)

Vittori-Pesaresi.
SPECTRUM OF PARTICLE DIAMETERS AND OPTICAL PROPERTY OF FOGS. [1963] [23]p. 8 refs.
Order from SLA $2.60 63-16937

Trans. of CENFAM-S. R. no. 3, Rome, June 62 [sic].

DESCRIPTORS: *Fog, *Atmospheric condensation, Drops, *Optical properties, Visibility, Meteorology, Measuring devices (Electrical and Electronic), Measurement, Particle size.

A preliminary study concerning the measuring of the diameter spectra of fog droplets in relation to the value of visibility range, constitutes the subject of this paper.

Vorob'eva, E. V.
COMBINED USE OF THE CHARACTERISTICS OF CIRCULATION TYPE AND CIRCULATION INTENSITY FOR THE PURPOSE OF FORECASTING ANOMALIES OF MONTHLY TEMPERATURE. [1963] [12]p. (figs. tables omitted) 11 refs. [DSIR] NLL M. 3838.
Order from OTS or SLA $1.60 63-19909

United trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) [1960] no. 88(150) [p. 96-110]

DESCRIPTORS: *Atmospheric motion, *Atmospheric temperature, Meteorological parameters, Climatology, Weather forecasting, Meteorology.

Both qualitative and numerical indices of atmospheric circulation have been applied in solving the particular problem of singling out the peculiarities of the occurrence of anomalies of monthly mean air temperature in the south-eastern parts of the European SSR. The fairly pronounced synchronous and prognostic relationships obtained show the need for the combined use of several circulation characteristics, and the need too far taking into account the features of circulation in the regions of the American sector. (Author)

Voskresenskii, A. I. and Matveev, L. T.
LIQUID-WATER CONTENT AND TURBULENT REGIME OF THE ARCTIC LAYERING CLOUDS. 27 June 62, 7p. (figs. tables omitted) 11 refs. Trans. no. 148 (M); [DSIR] NLL M. 3978.
Order from OTS or SLA $1.10 63-19730

Unedited trans. of Meteorologiya i Gidrologiya (USSR) 1950, no. 11, p. 14-19.
An unedited rough draft trans. is available from OTS or SLA $1.60 as 61-28975, MCL-1400, 19 Oct 61 [11]p.

DESCRIPTORS: Water, Turbulence, *Clouds, *Arctic regions, Measurement, Temperature, Meteorological data, Humidity, Stratus clouds.

For abstract see Technical Translations 7: 409, 1962.

Yudin, M. I. and Kobjakova, A. A.
FORECASTING THE 500 mb AND 300 mb CONTOURS USING THE ELECTRONIC COMPUTER "STRELA - 3" (ARROW - 3). 19 Mar 62 [15]p. (figs. talbes omitted) 1 ref. [DSIR] NLL M. 3841.
Order from OTS or SLA $1.60 63-19906

Unedited trans. of Tsent[ral'nyi] Inst[itut] Progn[ozov] Trudy (USSR) 1960, v. 106, p. 3-19.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, Meteorological parameters, Computers, Numerical analysis, Meteorology, Statistical functions.

Zolotukhin, A. A.
40 YEARS OF THE SOVIET HYDROMETEOROLOGICAL SERVICE, tr. by R. F. Zobel. [1963] 15p. DSIR NLL M. 3704.
Order from OTS or SLA $1.60 63-19846

Unedited trans. of Meteorologiya i Gidrologiya (USSR) 1961, no. 6, p. 3-12.
Another trans. is available from OTS $1.25 in 62-11110, JPRS-12076, 25 Jan 62, 48p.

DESCRIPTORS: *Meteorology, *Hydrology, *Oceanography, Scientific organizations, Weather forecasting, Upper atmosphere.

Frost Science

Tsomaya, V. Sh.
VARIATION IN THE RATE OF RETREAT OF GLACIERS IN THE CAUCASUS AND ITS CONNECTION WITH THE WARMINGS OF THE CLIMATE, tr. by S. J. Netrval. [1963] 2p. 5 refs. DSIR NLL M. 3711.
Order from OTS or SLA $1.10 63-19839

Unedited trans. of Met[eorologiya] i Gid[rologiya] (USSR) 1959, no. 10, p. 24-25.

DESCRIPTORS: *Glaciers, Climatology, Melting, Mountains.

A table is presented with data on the variation in the velocity of recess of the glaciers Gergeti, Yugo-Vostochnyy, Belengi, Zigitli and Tikhitsar from 1861 to 1958. Herefrom it may be seen that in the last years (1930 - 1958) the glaciers receded twice or triple as rapidly as from 1860 to 1930. The situation is quite similar with the snow-line in the area of the Kazbegi glaciation, where a considerable acceleration of the upward movement of the snow-line was observed during the last years. In 1956 the snow-line was found at 3500 -3700 m above sea level, while it was about 200-300 m lower in 1911. These conclusions apply for all glaciated areas of the Greater Caucasus, what is confirmed by an analysis of the data concerning the recess of the Alibek glacier.

Zel'manovich, I. L.
MICROSTRUCTURE AND TRANSPARENCY OF FALLING SNOW, tr. by R. F. Zobel. [1963] [7]p. (tables omitted). [DSIR] NLL M. 3746.
Order from OTS or SLA $1.10 63-19811

Unedited trans. of Glav[naya] Geof[izicheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1960, no. 100[162] p. 58-64.

DESCRIPTORS: *Snow, Microstructure, Atmospheric precipitation, Optical analysis, Measurement.

The article given the theory of a method of finding the microstructure of falling snow, together with the results of experimental tests of the method. The method given enables one to compute curves of the dimensional distribution of snowflakes if the quantity of snowflakes in 1 cm^3 of air and the transparency of the atmosphere are known. (Author)

Geography

ACTA GEOGRAPHICA SINICA, 1963, VOL. 29, NO. 1: SELECTED TRANSLATIONS. 1 Aug 63, 200p. 27 refs. JPRS: 20450.
Order from OTS $3.00 63-31432

Trans. of Ti Li Hsüeh Pao (Chinese People's Republic) 1963, v. 29, no. 1, p. 1-12, 14-23, 25-32, 36-47, 63-86.

DESCRIPTORS: *Geography, *China, Rivers, Floods, Water privation, Economics, Mapping, Distribution (Economics), Climatology.

Contents:
Hydrochemical characteristics of the rivers of China, by Lo Chia-hsiang and Wang Te-ch'un
The question of historical floods and droughts in Hupeh province and their relation to changes in solar activity, by Ch'iao Sheng'hsi
An evaluation of natural condition in economic geography (including abstract of Russian language) by Teng Ching-chung
Some modern characteristics of cartography, by Ch'en Shu-p'eng
An interpretation of and introduction to some principles and methods concerning the division of production and consumption regions, by Yang Wu-yang
The climate of cities, by Hsiao T'ing-k'uei (review of mono. Das Stadtklima, Moscow, 1958, by P. A. Kratzer)
The reasons for the temperature drop in South China in the winter half of the year: a debate with comrade Wang I-hsien, by T'ang So-fu.

GEOGRAPHY, 1963, NO. 1: SELECTED TRANSLATIONS. 1 Aug 63, 64p. JPRS: 20451.
Order from OTS $1.75 63-31433

Trans. of Ti Li (Chinese People's Republic) 1963, no. 1, p. 1-20, 33-38, 41, 44-45.

DESCRIPTORS: *Geography, *China, Irrigation systems, Agriculture, Cereals, Deserts, Salinity, Plants (Botany), Electric power production, Surveying, Mapping, Industries.

Contents:
Notice to authors by Ti Li editor
Preliminary evaluation of irrigation and water utilization problems regarding rotation planting of rice and wheat, by Szu Hsi-ming and Ch'üan Shih-lin
Discussions on the wet sand formation in the sand dunes of desert regions as based upon fixed position observation data from a number of desert stations, by Chao Sung-ch'iao
Distribution of saline land in our country and methods to improve or reclaim this land, Huang Chen-kuo and Mu Jung Mei-hsiung
Vegetation indicators of land suitable for agricultural cultivation in Sinkiang, by Wang Ho-sheng
Electric power and distribution of industries, by Liang Jen-ts'ai
Geographical compilation work with regard to topographical survey maps done by aerial and ground surveys, by Miu Yuan-ch'ang.

Geology

INTERNATIONAL GEOLOGY REVIEW, VOL. 5, NO. 4, P. 379-504. Apr 63, 1v. 115 refs.
Order from AGI $5.00, $55.00/year

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. [Geologiya i Razvedka] (USSR) 1961 [v. 4] no. 8, p. 60-73; Zakonomernosti Razmeshcheniya Poleznykh Iskopaemykh (USSR) 1958, v. 1, p. 252-274; Vsesoyuznoe Mineralogicheskoe Obshchestvo. Zapiski (USSR) 1961, v. 90, no. 6, p. 695-697; Sovetskaya Geologiya (USSR) 1961, no. 10, p. 42-57, 100-107, 118-136; and mono. Osnovy Tektoniki Kitaya, Moscow, 1962, p. 3-7, 524-527 (Russian ed. of Chinese mono. ed. by N. V. Tupitsyn).

DESCRIPTORS: *Geology, Periodicals, Sulfides, Deposits, Structural geology, China, Terrestrial magnetism, Minerals, Ion bombardment, Geophysical prospecting, Marine geology, Oils, Reviews.

Contents:
Role of organic substances in the formation of hydrothermal sulfide deposits, by A. I. Germanov
Principles of the tectonics of China: foreward and table contents
Some features of magnatism and metallogeny of platform regions, by Yu. G. Staritskii
On revealing microstructure of ore minerals by ionic bombardment, by G. V. Spivak and others
Soviet Geology, 1961, no. 10: contents, abstracts, selected publication, availability of translations
Prospects and means for raising the efficiency of geophysical exploration for ore deposits, by A. S. Polyakov
Principles and features of rational development of marine oil fields, by E. N. Alikhanov and others
Mobile provinces and the problems of their nomenclature, by L. I. Krasnyi
Review section
Reference section.

INTERNATIONAL GEOLOGY REVIEW, VOL. 5, NO. 7, P. 791-914. July 63, 1v. 170 refs.
Order from AGI $5.00, $55.00/year

Trans. of Akademiya Nauk SSSR. Paleontologicheskii Institut. Trudy, 1960, v. 83, p. 3-25; Meteoritika (USSR) 1961, v. 20, p. 103-113; Sovet[skaya] Geol-[ogiya] (USSR) 1962, no. 1, p. 35-70, 93-103, 131-145, 160-169.

DESCRIPTORS: *Geology, Periodicals, Paleontology, Genetics, Lead, Iron, Meteorites, Structural geology, Igneous rock, Metamorphic rock, Volcanoes, Natural resources, Oils, Gases, Antimony, Ores (Metal Sources), Radiometers, Geophysical prospecting.

Contents:
Theory of phylogenetic systematics, pt. 1, by V. E. Ruzhentsev
On the problem of the isotopic composition of lead in iron meteorites, by I. E. Starik and others
Soviet Geology, 1962, no. 1: contents, abstracts, selected publication, availability of translations
Some deep-seated features of platform provinces of the Soviet Union, by A. A. Borisov
Relationship between the deep and surface structure of the Greater Caucasus, by A. A. Sorskii
Certain features of postmagmatic solutions and the problem of temperature and pressure in mineralo-thermometry, by E. I. Sobel'man
Conditions of the present day hydrothermal metamorphism of volcanic rocks, by S. I. Naboko
Oil and gas prospects in the Adriatic trough, by L. I. Grdzelov
Experiments in radiometric testing of an antimony ore deposit, by V. N. Balashov and A. K. Polyakov
Review section
Reference section.

Abele C., Guillermo.
EXPLORATION FOR PHOSPHATES IN PERU. [1963] 13p. 7 refs.
Order from SLA $1.60 63-16243

Trans. of Sociedad Geologica del Peru, Lima. Boletin, 1957, v. 32 [no. 1] p. 5-19.

DESCRIPTORS: *Phosphates, Exploration, Peru, Geological survey.

The present article describes the general data of the mineralogy, composition, characteristics and theories on the origin of the phosphate occurrences in general. A description is given of the geology, chiefly of the stratigraphy, of thevarious zones visited in the country. The results of the analyses of the samples obtained in them are given and their economic possibilities are discussed. (Author)

Bekker-Migdisova, E. E.
SOME REPRESENTATIVES OF THE STERNORRHYNCHA FROM THE PERMIAN AND MESOZOIC OF THE USSR, [1963] [18]p. 8 refs.
Order from OTS or SLA $1.60 63-19689

Trans. of Osnovy Paleontologii. Materialy (USSR) 1959, no. 3, p. 104-116.

DESCRIPTORS: *Paleontology, Geology, *Insects, Homoptera.

A number of new genera in various superfamilies of the suborder Sternorrhyncha are described. Representatives of some superfamilies from the Permian or the Mesozoic are described for the first time, while others are entirely new and extremely interesting forms. The author does not intend to provide a coherent description of the phylogeny of the Sternorrhyncha in this short article, but merely proposes several possible phylogenetic connections between these extinct forms and Recent ones. (Author)

Deleau, P. and Marie, P.
THE FUSULINIDS OF THE WESTPHALIAN C OF THE ABADLA BASIN AND SOME OTHER FORAMINIFERA OF THE ALGERIAN CARBONIFEROUS (COLOMB-BECHAR REGION): EXCERPTS. [1963] 22p.
Order from ATS $24.75 ATS-29Q70F

Trans. of mono. [Fusulinides] n.p., n.d., p. 74-79, 83-84, 86-101, 109-113, 123, 127-133.
A partial trans. (p. 48-72, 134-145) is available from ATS $36.75 as ATS-86Q67F [1963] 29p.

DESCRIPTORS: *Foraminifera, *Protozoa. *Paleoecology.

Ilivitskii, A. A. and Nikolin, V. I.
DETERMINING THE STRENGTH OF ROCK STRATA ON IRREGULARLY SHAPED SPECIMENS. [1963] 9p. 4 refs. NCB Trans. A. 2044/JG; [DSIR] NLL M. 3905.
Order from OTS or SLA $1.10 63-19938

Trans. of Ugol' (USSR) 1961 [v. 36] no. 1, p. 34-36.

DESCRIPTORS: *Petrology, *Rock (Geology), Mechanical properties, *Compressive properties, Ores (Metal sources), Tests.

The work confirmed the possibility of determining the coefficients of strength of hard and very hard rock strata on specimens of irregular shape. The most reliable results in compressive testing will be obtained in those cases where the weight of the irregularly shaped specimens lies within the limits of 40 - 110 g (with $\gamma = 4$ g/cu. cm). The correlative connection of the ultimate compressive strength in time of the irregular specimens and the specimens of regular shape should be subjected to further research with a view to rendering it more exact; it should be differentiated for individual groups of rock strata with an eye to their degree of hardness. (Author)

Kraev, G. A. and Rel'tov, B. F.
ATTENUATION OF ELASTIC WAVES IN FRACTURE MODELS. [1963] 7p. 4 refs.
Order from OTS or SLA $1.10 63-16993

Trans. of Leningrad U. Uchenye Zapiski (USSR) 1960, no. 286, p. 125-129.

DESCRIPTORS: *Seismic waves, Mechanical waves, *Absorption, *Models (Simulations), Rock (Geology), Fracture (Mechanics), Design, Tests.

Kusakov, M. M. and Mekenitskaya, L. I.
INVESTIGATION OF THE STATE OF BOUND WATER IN OIL RESERVOIRS. [1963] 17p.
Order from OTS or SLA $1.60 63-16994

Trans. of mono. Issledovaniya v Oblasti Poverkhnostnykh Sil: Sbornik Dokladov na Konferentsii po Poverkhnostnym Silam, Apr 60 (Investigations in the Field of Surface Forces: Collection of Reports Made at the Conference on Surface Forces, April 1960) Moscow, 1961, p. 17-26.

DESCRIPTORS: *Geochemistry, Water, Surface properties, Films, *Oils, Models (Simulations), Electrolytes, Solutions, Porous materials, *Hydraulic accumulators, Moisture.

The conditions under which aqueous solutions can exist in the form of multimolecular wetting layers, and the conditions under which equilibrium layers do not exist were ascertained for both capillary systems and porous media.

Lomashov, I. P.
SOME LAWS OF THE DISTRIBUTION OF GERMANIUM IN COAL-"BEARING" DEPOSITS. [1963] 5p. NCB Trans. A.2130/SEH; [DSIR] NLL M. 3971.
Order from OTS or SLA $1.10 63-19859

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 137, no. 3, p. 692-694.
Another trans. is available from AGI $8.00.

DESCRIPTORS: *Germanium, Coal, Deposits, Distribution, *Economic geology, Geochemistry.

Markov, K. K.
THE FACE OF NATURE IN RECENT GEOLOGICAL TIME, tr. by E. R. Hope. July 63, 7p. DSIS T 391 R.
Order from NRCC NRCC C-4502

Trans. of Priroda (USSR) 1962 [v. 51] no. 12, p. 26-33.

DESCRIPTORS: *Geological survey, *Paleoecology, *Stratigraphy, Glaciers, Terrain, Geologic age determination, Geology, Paleontology, Geography.

Rozen, B. Ya.
ADSORPTION OF IODINE AND BROMINE FROM AQUEOUS SOLUTIONS ON MINERAL ADSORBENTS (Adsorbtsiya Ioda i Broma iz Vodnykh Rastvorov na Mineral'nykh Adsorbentakh) tr. by B. Ribush. [1962] [7]p. (foreign text included) 9 refs. [CSIRO] Trans. no. 6156.
Order from OTS or SLA $1.10 63-23408

Trans. of Akademiya Nauk SSSR. Doklady, 1951, v. 81, no. 2, p. 243-245.

DESCRIPTORS: *Geochemistry, *Iodine, *Bromine, *Adsorption, Minerals, Clay, Salts.

Vinogradov, A. P.
THE ORIGIN OF THE EARTH'S SHELLS (Proiskhozhdenie Obolochek Zemli). Aug 63, 22p. NASA Technical Trans. F-171; NASA N63-19864.
Order from OTS $0.75 63-11689

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 9, p. 16-29.

DESCRIPTORS: *Geogony, *Earth, *Geochemistry, *Lithosphere, *Meteorites, Petrology, Structural geology, Geology.

The questions considered include the methods of differentiating the terrestrial substance into shells of different physico-chemical character and the stages during which this differentiation took place. Answers are sought indirectly on the basis of cosmic data or on the basis of galactic distribution of the chemical elements. (NASA abstract)

Vologdin, A. G.
STROMATOLITHS, INDICATORS OF MIGRATION OF THE POLES tr. by E. R. Hope. Aug 63, 2p DSIS T 396 R.
Order from NRCC NRCC C-4511

Trans. of Priroda (USSR) 1961 [v. 50] no. 11, p. 102-103.

DESCRIPTORS: *Algae, *Plants (Botany), Light, *Paleontology.

Mineralogy

Bron, V. A.
EFFECT OF LIQUID PHASE ON THE PROCESS OF SILICA CRYSTALLIZATION. 10 May 63 [5]p. 10 refs. FTD-TT-63-512.
Order from OTS or SLA $1.10 63-23213

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 59, no. 3, p. 535-536.

DESCRIPTORS: *Silicon compounds, *Dioxides, *Crystallization, Liquids, Quartz, Fused materials.

Chernii, L. M. and Makarenko, N. V.
FLOTATION OF SYLVINITE ORE FROM THE SOLIKAMSK LOCALITY. [1963] [16]p. 10 refs.
Order from OTS or SLA $1.60 63-14548

Trans. of [Khimicheskaya Promyshlennost'] (USSR) 1941, v. 18, no. 12, p. 8-13.

DESCRIPTORS: *Flotation (Separation), *Minerals, Ores (Metal sources), *Potassium compounds, Chlorides, Reagents, Alcohols, Tests.

These experiments demonstrated that the flotation of an ore containing 28% KCl and 1.2% insoluble residue (clay) produces a concentrate with 90% KCl. The extraction is 90% KCl, without allowing for the losses due to mechanical causes. The expensive flotation agent,

acidol, can be successively replaced by the petroleum soap. The exact consumption figures for reagents were determined, and their proper order of introduction was established. A quantitative relationship was found to exist between the consumption of water glass and that of equipment measured. The difference in cost between the flotation method and the chemical procedure for production of the concentrate was found to be within the limits of accuracy of cost estimates. The flotation method of enrichment uses no steam, and causes a much milder degree of corrosion of equipment.

Grigor'ev, D. P.
COSMIC MINERALOGY: A NEW BRANCH OF SCIENCE (Kosmicheskaya Mineralogiya: Novaya vetv' Nauki). Aug 63, 5p. NASA Technical Trans. F-170.
Order from OTS $0.50 63-11693

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 4, p. 21-24.

DESCRIPTORS: *Meteorites, *Minerals, *Geochemistry, Silicates, Phosphates, Iron, Nickel, *Extraterrestrial topography.

The conclusion is reached that out of a j long-noted tendency to group mineralogical knowledge, there now emerges the important task of developing cosmic mineralogy as a special branch of the science of minerals. This branch must assume a genuine place in the work of the scientific organizations that are leading mankind toward the study and conquest of the cosmic spaces. (NASA abstract)

Shcherbov, D. P. and Plotnikova, R. N.
DOSAGES FLUORIMÉTRIQUES DE MICROQUANTITÉS DE BÉRYLLIUM DANS LES MINERAIS (Fluorometricheskoe Opredelenie Submikrogrammovykh Kolichestv Berilliya v Mineral'nom Syr'e) [Fluorometric Determination of Submicrogram Amounts of Beryllium in Ores] tr. by Cen-Far. 28 Apr 62 [17]p. (foreign text included) 18 refs. CEA Trans. no. R 1623.
Order from OTS or SLA $1.60 63-15498

Trans. in French of #Zavodsk[aya] Lab[oratoriya] (USSR) 1961, v. 27, no. 9, p. 1058-1062.

DESCRIPTORS: *Ores, Microanalysis, Beryllium, Determination, Separation, *Complex compounds, Chemical indicators, *Flavones, Hydroxides, *Fluorescence.

Stirnemann, Ernst.
THE SYSTEM FERRIC CHLORIDE-WATER AT HIGHER TEMPERATURES (Das System Eisenchloride-Wasser bei Höherer Temperatur). [1963] 69p. (foreign text included) 32 refs.
Order from SLA $6.60 63-16765

Trans. of Neues Jahrbuch f[ür] Mineralogie. Abhandlungen (Germany) 1925, v. 52A, p. 334-376.

DESCRIPTORS: *Ores, Minerals, *Iron compounds, *Chlorides, Water, *Phase studies, Thermodynamics, Molecular weight, Density, Dissociation, Water vapor, Vapor pressure, Sublimination, Boiling, *Oxychlorides, Crystal structure.

Toropov, N. A. and Lin, Tsu-san.
A STUDY OF THE SYSTEM $Ca_2Al[AlSiO_7]$-$Ca_2Ga[GaSiO_7]$. [1963] 6p. 2 refs.
Order from OTS or SLA $1.10 63-18501

Trans. of #Zhurn[al] Neorg[anicheskoi] Khim[ii] (USSR) 1960, v. 5, no. 11, p. 2466-2470.

DESCRIPTORS: *Minerals, *Calcium compounds, *Aluminum compounds, *Gallium compounds, *Silicates, *Phase studies, Glass, Crystals, Refractive index, *Crystal lattices, Heat of fusion.

The existence of a continuous series of solid solutions is demonstrated in the system $Ca_2Al[AlSiO_7]$-$Ca_2Ga[GaSiO_7]$. It is shown that when aluminum is replaced by gallium, the refractive index of glass and crystals increases with a simultaneous increase in the volume of the elementary cell. The temperature of fusion of specimens of the system $Ca_2Al[AlSiO_7]$-$Ca_2Ga[GaSiO_7]$ decreases with an increasing content of gallium in the solid solutions. (Author)

Oceanography

Kamshilov, M. M.
SOME THEORETICAL RESULTS OF INVESTIGATIONS BY THE MURMANSK BIOLOGICAL STATION: THE HYDROLOGICAL, HYDROCHEMICAL AND BIOLOGICAL FEATURES OF THE REGION INVESTIGATED. 1961 [18]p. 18 refs. [DSIR] NLL M.3476.
Order from OTS or SLA $1.60 62-23947

Trans. of mono. [Zakonomernosti Skoplenii i Migratsii Promyslovykh Ryb v Priberezhnoi Zone Murmana i Ikh Sviaz' s Biologicheskimi, Gidrologicheskimi i Gidrokhimicheskimi Protsessami] (Regular Features of the Concentration and Migrations of Commercial Fishes in the Coastal Zone of Murman [and their Relation to Biological, Hydrological, and Hydrochemical Processes]) [Moscow] 1958, p. 259-269.

DESCRIPTORS: *Oceanology, *Marine biology, Fisheries, *Fishes, Biological environment, Biological laboratories, Hydrology, Temperature, Beaches, Ecology, Benthos.
A survey was made of the literature on the eastern Murman coastal region. Geography, topography, hydrochemistry, and amount of plankton were determined in order to assess the relative commercial value of the region as compared with that of the Barents Sea. The lower productivity of zooplankton had a detrimental effect on the food supply for commercial fish. The relationships among marine organisms were investigated. The influence of water temperature on migration of fish was noted. The growth of the fishing industry was shown to be the most important factor in the evolution and distribution of marine organisms, especially fish.

Kol'man, O. V.
CRUISE OF THE AMERICAN ATOMIC SUBMARINE "SEADRAGON" IN THE ARCTIC OCEAN (Plavanie Amerikanskoi Atomnoi Podvodnoi Lodki "Sidragen" v Severnom Ledovitom Okeane) tr. by W. G. Van Campen. Feb 63, 4p.
Order from OTS or SLA $1.10 63-19975

Trans. of Okeanologiya (USSR) 1962, v. 2, no. 6, p. 1115-1117.

DESCRIPTORS: *Submarines, *Arctic Ocean, Arctic regions, Ice, Marine biology, Underwater photography.

A brief review of the Seadragon's cruise in the Arctic Ocean is given. The possibility of penetrating the Northwest Passage under the ice was investigated. Recordings of oceanographic data were made including the detection and measurement of icebergs.

Maksimov, I. V.
THE LONG PERIOD CYCLE OF SOLAR ACTIVITY AND THE NORTH ATLANTIC CURRENT. [1963] [9]p. (figs. tables omitted) 8 refs. [DSIR] NLL M.3872.
Order from OTS or SLA $1.10 63-19882

Unedited trans. of Okeanologiya (USSR) 1961, v. 1, no. 2, p. 206-212.

DESCRIPTORS: *Solar radiation, *Ocean currents, Gulf stream, Atlantic Ocean, Oceanology, Periodic variations, Atmospheric motion, Geophysics, Climatology.

Seryakov, E. I. and Radikevich, V. M.
ON THE VARIABILITY OF THE HEAT BALANCE COMPONENTS IN THE SOUTHERN PART OF THE BARENTS SEA DURING THE INTERNATIONAL GEOPHYSICAL YEAR. 1961 [14]p. (figs. omitted) 5 refs. [DSIR] NLL M.3486.
Order from OTS or SLA $1.60 62-23956

Trans. of [Gidrometeorologicheskii Institut, Leningrad. Trudy] (USSR) 1961 [v. 10] no. 1, p. 43-51.

DESCRIPTORS: *Barents Sea, *Temperature, Distribution, Marine meteorology, Oceanology, Thermal radiation, Heat transfer.

Physics of the Atmosphere

INSTRUMENTATION USED IN SEARCHLIGHT TECHNIQUES AND PROBING OF THE ATMOSPHERE: COMPILATION OF ABSTRACTS. AID report on Work Assignment no. 35. 3 July 63 [112]p. AID Rept. P-63-92.
Order from OTS or SLA $9.60 63-23337

DESCRIPTORS: *Searchlights, *Atmospheric sounding, *Optics, Instrumentation, Optical equipment, Abstracts.

Contents:
Foreword
Introduction
General articles on instrumentation in searchlight techniques
Individual components of searchlight installations
Other instruments employed in atmospheric optics
Author index.

TRANSACTIONS OF THE CENTRAL AEROLOGICAL OBSERVATORY, 1961, NO. 32: SELECTED ARTICLES. 3 June 63 [73]p. 35 refs. FTD-TT-62-1511.
Order from OTS or SLA $7.60 63-23625

Unedited rough draft trans. of Tsentral'naya Aerologicheskaya Observatoriya. Trudy (USSR) [1959] no. 32, p. 46-87.
##Another trans. of p. 84-87 is available from CTT $6.00 as CTT-61M2, 1961, 3p.

DESCRIPTORS: *Atmosphere, *Solar radiation, Absorption (Physical), Measurement, *Troposphere, Antarctic regions, *Light, Scattering.

Contents:
The investigation of certain errors in the determination of the absorption of solar radiation in the atmosphere with pyranometers, by V. G. Kastrov
Certain features of radiation processes in the lower troposphere of the Antarctic, by V. I. Shlyakhov
Absorption of solar radiation in the lower troposphere, by V. G. Kastrov
##The asymmetry of light scattering in the atmosphere, by V. G. Kastrov.

Shmelovskii, K. Kh., Klinker, P., and Knut, R.
ELECTRON CONCENTRATION IN THE UPPER IONOSPHERE FROM OBSERVATION OF THE THIRD SOVIET SATELLITE, tr. by C. R. Haave. 6 Aug 63, 17p 9refs APL/JHU TG 230-T396.
Order from OTS $0.50 63-11684

Trans. of #Geomagnetizm i Aeronomiya (USSR) 1963, v. 3, no. 1, p. 25-36.

DESCRIPTORS: *Ionosphere, *Upper atmosphere, *Electron density, Satellites (Artificial), Magnetic tape, Radio signals, Magneto-optic effect, Measurement, Geophysics.

During the entire time of flight of the third Soviet satellite (Satellite 1958 δ_2), low-frequency (20 mc) records were regularly made at the Kühlungsborn Observatory ($\varphi = 54^{\circ}07'N$, $\lambda = 11^{\circ}46'E$, $\Phi = 54.4^{\circ}N$, $\Lambda = 96.8^{\circ}E$) of the Ionospheric, Meteorological and Hydrological Service of the German Democratic Republic. Although analysis of the magnetic tapes was carried out by the most diverse methods, major attention was turned to analysis of the signal fading connected with the Faraday effect. This method yielded the data on the total number of electrons between satellite and observing station considered in this paper. (Author)

ENGINEERING

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 254 (ELECTRONICS, ENGINEERING AND SPACE RESEARCH SERIES). 6 Aug 63, 5p. JPRS: 20505.
Order from OTS $0.50 63-31459

Abstract trans. of Sdelovaci Technika (Czechoslovakia) 1963, v. 11, no. 6, p. 201-217, 219-223, 228-229.

DESCRIPTORS: *Abstracts, *Electronics, *Engineering, Space flight, Bibliographies, *Czechoslovakia, Radio broadcasting, Antennas, Telephone communication systems, Magnets, Control systems, Hysteresis, Ultracentrifuges, Coaxial cables, Television equipment.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 266 (ELECTRONICS, ENGINEERING, AND SPACE RESEARCH SERIES). 9 Aug 63, 6p. JPRS: 20586.
Order from OTS $0.50 63-31498

Consists of abstracts of articles from the scientific and technical journals of East Germany.

DESCRIPTORS: *Abstracts, *Electronics, *Engineering, Space flight, Bibliographies, *East Germany, Radio signals, Ionospheric propagation, Transistors, Circuits, Conductors, Telephone communication systems, Generators, Electrical engineering, Frequency modulation, Organic materials, Vapors, Transformers, Integral transforms, Electric motors, Control systems.

AUTOMATIC LEVELING ADJUSTER FOR LEVELS. 24 June 63, 4p. 4492/61 Japan.
Order from INT $10.50

Trans. of Japanese patent 4492/61 by Sokkisha Co. Ltd., filed 5 June 56.

DESCRIPTORS: *Horizontal indicators, Automation, Automatic.

FORMATION DEVICE FOR SLIDE FASTENER HAVING COILY TEETH. 18 June 63, 4p. 21376/61 Japan.
Order from INT $10.50

Trans. of Japanese patent 21376/61 by Tadao Yoshida., filed 29 Aug 58.

DESCRIPTORS: *Fastenings, Manufacturing methods.

Khokhlov, V. A.
HYDRAULIC POWER AMPLIFIERS. 11 June 63 [146]p. 20 refs. FTD-TT-62-1226.
Order from OTS $2.75 63-11666

Unedited rough draft trans. of mono. Gidravlicheskie Usiliteli Moshchnosti, Moscow, 1961 [100p.].

DESCRIPTORS: *Control systems, *Servomechanisms, *Servo amplifiers, *Hydraulic servomechanisms, *Hydraulic actuators, *Amplifiers, Power amplifiers, *Hydrodynamics, Classification, Circuits, Design, *Feedback, Dynamics, Statics, *Electromechanical converters, Transducers, *Electrohydraulics.

Consideration is given to hydraulic amplifiers operating in electrohydraulic control systems and in servo systems. Topics include: The components of hydraulic actuators and their characteristics; classification and line diagrams of hydraulic actuators; designs, basic parameters, and characteristics of hydraulic amplifiers; analysis of the statics and dynamics of hydraulic amplifiers with and without feedback; and, electromechanical transducers.

Korth, Karl
LIGHTELECTRICAL METHOD OR LIGHTELECTRICAL CONTROL DEVICE FOR THE INVESTIGATION OF IMPACT FREEDOM OF ROTATION BODIES. [1963] 4p. (figs. omitted).
Order from OTS or SLA $1.10 63-16335

Trans. of German patent 854,587, cl. 42 b, gr. 26_{03}, by Siemens & Halske A. G., pat. started 17 July 38 (the period of 8 May 45, through 7 May 50 is not included in the time of validity) appl. pub. 10 Jan 52, granted 4 Sep 52.

DESCRIPTORS: *Phototubes, Measurement, Tolerances (Mechanics), Rotation, Thickness, Meters, Materials.

Tsyrulnikov, A. S.
THE EFFECT OF VARYING RATES OF ADVANCE ON THE GASSINESS OF COAL FACES. [1963] [8]p. 3 refs. NCB Trans. A. 1992/GE; [DSIR] NLL M. 3901.
Order from OTS or SLA $1.10 63-19940

Trans. of Ugol' Ukrainy (USSR) 1960, v. 4, no. 12, p. 13-15.

DESCRIPTORS: *Coal mines, *Gases, Methanes, Determination, Measurement, *Mining engineering, *Coal gas.

Zubrzycki, Joseph and Mitescu, Stefan.
ARRANGEMENT FOR ELECTRICAL WARMUP FOR GRANULAR OR POWDER LIKE MATERIAL WHICH IN WHIRLING LIKE FORM IS PASSED TO THE REACTIONS CHAMBER IN HORIZONTAL FLOW. [1963] [10]p. 9 refs.
Order from OTS or SLA $1.10 63-14942

Trans. of German patent 1,015,775, A 17294 IV a/12g, cl. KL 12 g 1/01, internat'l cl. B o i j, notifying date, 17 Jan 53, pub. 19 Sep 57, by Aluminum Laboratories, Ltd. (claim priority: V. St. from America from 23 Jan 52).

DESCRIPTORS: *Heaters, Heating elements, Resistors, *Materials, Powders, Particles, Gas flow, Design, Fluidized solids.

For this invention are used band type resistance elements which with its greater band surface is tilted in certain angle face to face horizontally where the current stream side of the resistance element is at highest point. The electrical heat resistance elements, if preferred, may be arranged as single elements in horizontal and diagonal directions, which could be taken out through a provided slide valve in the lid. It could also be many resistance elements fed from a common perpendicular dividing stick, which at the top are bound together. (Author)

Zuev, V. A. and Tarassev, U. I.
CLEANING MINE FAN DRIFTS. [1963] 6p. NCB Trans. A. 1993/GE; [DSIR] NLL M. 3975.
Order from OTS or SLA $1.10 63-19855

Trans. of Ugol' Ukrainy (USSR) 1960, v. 4, no. 12, p. 19-20.

DESCRIPTORS: *Ventilation, *Coal mines, *Mining engineering, Dusts, Inhibition, Water, Sprays, Cleaning.

Aeronautical Engineering

Frolov, Iv.
THE DESYATKA GOES UP INTO THE STRATOSPHERE. 7 May 63 [9]p. FTD-TT-63-321.
Order from OTS or SLA $1.10 63-23104

Unedited rough draft trans. from Sovetskaya Rossiya (USSR) 1963, no. 46, 23 Feb, p. 4.

DESCRIPTORS: *Guided missiles (Air-to-surface), Stratosphere, *Guided missile launchers, Airborne, *Launch vehicles (Aerospace), Flight, High altitude, *Jet bombers, Operation.

A journalist's account of a flight aboard the intercontinental rocket carrier desyatka ("Ten-spot") during a missile-launching exercise.

Vinokurov, A. D. and Egorov, A. I.
AVIATION RECORDS OF THE USSR. 24 May 63 [127]p. (figs. omitted). FTD-TT-63-212; AD-410 931.
Order from OTS or SLA $10.10 63-23420

Unedited rough draft trans. of mono. Aviatsionnye Rekordy SSSR, Moscow, 1960, 95p.

DESCRIPTORS: *Aeronautics, *Records, Aircraft, Pilots, Helicopters, Gliders, Parachutes, Airplane models, Balloons, Airplanes.

The brochure describes the Soviet aviation records which were in existence as of 1 January 1960 and it discusses the most notable records and record-holders. A number of examples show how the simple youths and young women of our nation have become famous pilots, glider pilots, and parachutists. The brochure contains much informative material which points out the growth of Soviet aviation technology and the entire complexity of preparations and establishment of aviation records. (Author)

Chemical Engineering

A COMPOUND PELLETIZER. 18 June 63, 9p. 6953/62 Japan.
Order from INT $27.00

Trans. of Japanese patent 6953/62 by Mitsubishi Zosen Co. Ltd., filed 24 Feb 58.

DESCRIPTORS: *Pellets, Manufacturing methods.

CONTINUOUS TWO-STAGE COOLING VACUUM CRYSTALLIZATION MECHANISM. 14 June 63, 5p. 66/56 Japan.
Order from INT $15.00

Trans. of Japanese patent 66/56 by Daidoo Koohatsu Co. Ltd., filed 29 Sep 29.

DESCRIPTORS: *Crystallization, Machines, Automation, Cooling, *Vacuum apparatus.

CONTINUOUS-TYPE CRYSTALLIZATION MECHANISM. 13 June 63, 4p. 5614/54 Japan.
Order from INT $12.00

Trans. of Japanese patent 5614/54 by Hachiro Ishizuka, filed 17 Jan 28.

DESCRIPTORS: *Crystallization, Automation.

DEVICE FOR VACUUM EVAPORATION AND CRYSTALLIZATION. 13 June 63, 5p. 2068/54 Japan.
Order from INT $15.00

Trans. of Japanese patent 2068/54 by Daidoo Kohatsu Co. Ltd., filed 26 Sep 52.

DESCRIPTORS: *Crystallization, *Evaporation, *Vacuum apparatus.

METHOD FOR MANUFACTURE OF 8.8-DICYANOHEPTAFURBEN COMPOUND. 18 June 63, 3p. 13071/62 Japan.
Order from INT $7.50

Trans. of Japanese patent 13071/62 by Chief of Non-Aqueous-solution Chemistry Laboratory of Tohoku University, filed 29 Aug 59.

DESCRIPTORS: *Cyano radicals, Hydrocarbons, Manufacturing methods.

METHOD FOR PREVENTING FOAM, PARTICULARLY IN FERMENTING LIQUIDS. [1963] 1p
Order from OTS or SLA $1.10 63-18192

Trans. of French patent 776,346 [1935].

DESCRIPTORS: *Liquids, *Fermentation, *Foams, Surface tension, Reduction (Chemistry), *Fatty acids, Oils, Mixtures, *Foaming inhibitors.

PROCEDURE FOR THE PRODUCTION OF STARCH FROM GRAIN. [1963] 11p. 1 ref.
Order from OTS or SLA $1.60 63-14515

Trans. of Netherlands patent 72,449, cl. 89 k 2 (12 d 1 b) by Stamicarbon, appl. 163,778, presented 5 Sep 51, pub. 15 Dec 52.

DESCRIPTORS: Production, *Starches, Cereals, Corn, Purification, Material separation.

The patent consists of a procedure for the working up of a thin mash, obtained in the production of starch from grain, especially maize, in the known manner by the grinding and separation from the coarsest constituents with a diameter greater than about 1 mm., consisting of a suspension of free starch grains, membranous constituents, and cell conglomerates, characterized by the fact that the mash, whether or not after removal by screening of the free starch grains herefrom, is pressed by one or more hydrocyclones of such form and dimensions and under such circumstances that on the one hand all of the membranous constituents and the cell conglomerates smaller than 100 to 200 microns are discharged mainly with the main current via the overflow opening(s), whereas on the other hand all of the coarser cell conglomerates are discharged mainly via the tapping-off opening(s). The cell conglomerates which are discharged via the tapping-off opening are subjected to a grinding process and the ground product is resubjected to a separation process. The ground product is added to the mash obtained by the first grinding of the natural product. (Author)

PROCESS FOR THE PRODUCTION OF STARCH FROM GRAIN. [1963] 14p. 2 refs.
Order from OTS or SLA $1.60 63-14514

Trans. of Netherlands patent 72,448, cl. 89 k 2 (12 d 1 b) by Stamicarbon, Ltd., appl. 163,777, presented 5 Sep 51, pub. 15 Dec 52.

DESCRIPTORS: Production, *Starches, Cereals, Corn, Purification, Material separation.

The invention involves a procedure for the production of pure starch from a thin starch mash that is obtained by grinding grain, especially maize, and then, after dilution if necessary, removing the parts with a diameter of more than 0.2 mm. and preferably of more than 0.1 mm. from the grist, characterized by the fact that the mash is pressed by one or more hydrocyclones of such form and dimensions and under such circumstances that impurities of high specific gravity still present in the starch mash and practically all of the cell conglomerates with a diameter of at least 80 microns and preferably also those with a diameter of 60 to 80 microns are discharged through the tapping-off opening(s) and the starch grains are discharged mainly through the overflow opening(s), after which the starch is separated from the overflow fraction in known manner. (Author)

ROTARY-TYPE CRYSTALLIZATION MACHINE. 14 June 63, 5p. 5617/54 Japan.
Order from INT $13.50

Trans. of Japanese patent 5617/54 by Toyoo Kakooki Co. Ltd., filed 21 Apr 28.

DESCRIPTORS: *Crystallization, Machines, Rotation.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 101. 29 July 63, 9p. JPRS: 20393
Order from OTS $0.50 63-31404

Trans. of 43 short items from Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 4, p. 74 and 1963 issues of 19 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Rubber, *Plastics, *Fibers (Synthetic), *Dyes, *Coatings, *Carbon black, *Sodium compounds, Hydroxides, *Fertilizers, *Sulfuric acid, *Alcohols, *Carbon tetrachloride, *Reagents, Chemicals.

Contents:
Rubber and rubber products
Plastics, chemical fibers, other artificial and synthetic materials
Dyes, coatings, carbon black, petrochemicals
Soda, fertilizers, sulfuric acid
Alcohol, carbon tetrachloride, chemical reagents; other chemical products and organizations.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 108. 9 Aug 63, 25p. JPRS: 20562.
Order from OTS $0.75 63-31484

Trans. of Radyans'ka Ukrayina (USSR) 1963, 7 Mar, p. 1; 23 Mar, p. 2; 24 Mar, p. 2; 2 Apr, p. 2, 27 Apr, p. 3; 7 May, p. 1; 14 May, p. 1.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Industrial plants, Construction, *Natural resources, Chemicals, *Tires, *Clays, Deposits, Fertilizers, Pesticides.

Contents:
Expedite the construction of chemical enterprises, by L. Pasechnyuk and M. Borisov
New chemical-industry projects in the Ukrainian SSR
The chemical wealth of the Sivash, by A. Yashchenko
A new design of broad-profiled tire is developed in Kirov
Do not develop the Dashukovskoe clay deposits, by S. Potapenko
Activities of the Khar'kov electromechanical plant
Building the Volgograd chemical plant
The chemization of daily life, by V. Kalechyts'
News and notes from the chemical industry in the Ukraine.

Burtsev, I. B.
FLOWING OIL RECOVERY IN OIL DISPLACEMENT FROM A POROUS MEDIUM BY WATER UNDER LABORATORY CONDITIONS. [1963] 9p. 13 refs.
Order from OTS or SLA $1.10 63-16986

Trans. of Neftyanoe Khozyaistvo (USSR) 1961, v. 39, no. 11, p. 50-55.

DESCRIPTORS: *Oils, *Petroleum, Recovery, Porous materials, Test facilities, Water injection.

Gadaskina, N. D., Plaksa, Kh. L., and Rudkovskii, D. M.
PRODUCTION DES DODECYLBENZENESULFONATES DE SODIUM À PARTIR DES PRODUITS DE COKEFACTION (Dodecyl Benzene Sulfonates of Sodium from Products of Coking). 9p. 4 refs. FR-1776.
Order from OTS, ETC or CNRS $0.80 62-26459

Trans. in French of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1961, v. 6, no. 2, p. 10-16.

DESCRIPTORS: *Detergents, *Sulfonates, Sodium compounds, Phenyl radicals, *Petroleum, Decomposition, Alkyl radicals.

Gallo, G.
PROCESS FOR THE PRODUCTION OF ALKALINE POTASSIUM AND SODIUM HYDROXIDES FROM THE CORRESPONDING SULFATES. [1963] 13p. 8 refs.
Order from SLA $1.60 63-16082

Trans. of [Annali di Chimica] (Italy) 1935, v. 25, p. 620-628.

DESCRIPTORS: *Sulfates, *Hydroxides, *Sodium compounds, *Potassium, *Alkali metals, Production, Processing.

Gofman, I. L., Lykov, M. V. and others.
THE MANUFACTURE OF SODIUM TRIPOLYPHOSPHATE AND PYROPHOSPHATE (Poluchenie Tripolifosfata i Pirofosfata Natriya). Dec 62 [10]p. 16 refs. RTS-2134.
Order from OTS or SLA $1.10 63-15959

Trans. of Khimicheskaya Promyshlennost' (USSR) 1961, no. 9, p. 620-624.

DESCRIPTORS: Industrial production, *Sodium compounds, *Phosphates, Purification, Chemical reactions, Synthesis (Chemistry), Chemical properties, *Dehydration, Complex compounds, Calcium compounds, Cleaning compounds, Metallurgy, Additives, Particles.

The manufacture of sodium triphosphate included the following stages: (1) neutralization of phosphoric acid with soda ash, (2) separation of precipitated impurities, (3) concentration of the purified solution by evaporation and drying until a homogeneous anhydrous mass of $2Na_2HPO_4 + NaH_2PO_4$ is obtained, (4) molecular dehydration of the orthophosphates, and (5) reaction of the pyrophosphates with each other to form sodium triphosphate. Sodium triphosphate exists in two crystalline forms which differ in thermal stability. The physical state of the mixture was an important consideration during the final stage. A method of spray-drying was perfected in which drying, calcining and cooling were performed in one unit.

Gonikberg, M. G. [Dorogochinskii, A. Z.] and others.
PROCESS FOR THE THERMAL DEALKYLATION OF AROMATIC HYDROCARBONS, tr. by M. T. Muffitt. 30 July 62 [7]p. 10 refs. CTRA Technical Note 122; [DSIR] NLL M. 8853.
Order from OTS or SLA $1.10 62-32825

Trans. of Khimiya i Tekhnol[ogiya] Topliv i Masel (USSR) 1962 [v. 7, no. 4, p. 11-14] (Bull. Inf. S. G. I. G. B. 1962, no. 3, p. 29-33 [sic]).

DESCRIPTORS: *Hydrocarbons, *Benzenes, *Toluene, Distilling plants, *Alkylation, Chemical industry, Monocyclic compounds, *Boiling, *Separation.

Hess, Richard, Barthell, Eduard, and others.
METHOD FOR THE PRODUCTION OF WATER-SOLUBLE AND EMULSIFIABLE ELECTROLYTE-STABLE "DUBBING" AGENTS. [1963] 7p. 6 refs.
Order from OTS or SLA $1.10 63-16568

Trans. of German patent 1,068,251, cl. 12 o 23/01, int. cl. C 07 c, C 12807 IVb/12 o, appl. 31 Mar 56, pub. 5 Nov 59, by Chemische Fabrik Stockhausen and Co.
Another trans. is available from K-H $7.50 as K-H-11033b [1962].

DESCRIPTORS: *Coatings, *Fats, *Oils, *Sulfites, Electrolytes, Stability, Colloids, Solubility, Oxidation, Sulfonation.

The invention concerns a method for the production of water-soluble and emulsifiable electrolyte-stable dubbing agents by the conversion of oils and fats with oxygen or oxygen-containing gases at elevated temperatures and simultaneous or subsequent conversion with alkali bisulfite until the reaction product is colloidally soluble in water, characterized by the fact that wool fat or lanolin or mixtures or wool fat with other oils and fats sulfitable by conversion with oxygen or bisulfite can be utilized as the raw materials. Small amounts of an electrolyte-stable emulsifier or of a sulfite addition compound of wool fat, whale oil or sperm oil are added to the reaction mixture at an arbitrary stage of oxidation or sulfiting. (Author)

Honda, Shinichiro and Ichikawa, Yataro.
DEVICE FOR CONTINUOUS POLYCONDENSATION. July 63, 7p.
Order from SA $16.00 SA Code-P-186

Trans. of published Japanese patent 17697/1962, cl. 26-D-6 (13-A-5) (26-A-1) appl. no. 35427/1960 filed 18 Aug 60, pub. 29 Oct 62, by Teikoku Rayon Co., Ltd.

DESCRIPTORS: *Polyester plastics, Alkyl radicals, *Phthalates, Ethylenes, Glycols, *Condensation reactions, *Industrial equipment, Design.

Jansen, Max Petrus Josef Maria and Suijkerbuijk, Hendricus Johannes Petrus.
PROCESS FOR EXTRACTING A POTASSIUM-RICH ASH FROM LIQUID WASTE PRODUCTS OF MOLASSES-REFINING INDUSTRIES. [1963] 5p. 1 ref.
Order from OTS or SLA $1.10 63-14636

Trans. of Netherlands patent 75,733, cl. 12111 (6 af) C. D. 661.31:664.15, entered 25 July 54, pub. 16 Aug 54, by N. V. Zuid-Nederlandsche Spiritus Fabriek, appl. 169,292, submitted 3 May 52, pub. 16 Nov 53.

DESCRIPTORS: *Potassium compounds, *Sulfates, *Sulfides, Liquids, Wastes (Industrial), Industries, Refineries, *Combustion, *Carbonates, Chemical precipitation.

A process is described for producing a potassium rich ash from liquid waste products of molasses refining industries through condensation of the liquid waste products and combustion of the concentrated mass, preferably through combustion under reducing conditions with subsequent transformation of the heated potassium sulfide with carbonic acid into potassium-carbonate, characterized in that before the combustion alkali carbonate is added to the liquid waste product the resulting precipitate is removed. Potassium carbonate is added in the form of the ash resulting from the combustion, without previous concentration of the potassium carbonate. (Author)

Kameyama, N., and Inoue, Y.
RECHERCHE SUR LE CARBURE DE CALCIUM. 7 me RAPPORT. CRISTALLISATION À COMBUSTION DU RESIDU DE L'ACÉTYLÈNE (Calcium Carbide. VII. Briquetting the Waste Slaked Lime from Acetylene Generators) 10p.
Order from OTS, ETC or CNRS $0.80 62-26904

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1943 [v. 46] p. 747-749.

DESCRIPTORS: *Calcium compounds, *Carbides, Acetylenes, Production.

Kleiner, K. E.
IMPROVEMENT OF THE MANUFACTURE OF SODIUM SILICOFLUORIDE. II. SOLUBILITY OF SODIUM SILICOFLUORIDE. [1963] 15p. 11 refs.
Order from OTS or SLA $1.60 63-14616

Trans. of [Zhurnal Prikladnoi Khimii] (USSR) 1944, v. 17, p. 409-416.
Another trans. is available from SLA as R-2152, 10p.

DESCRIPTORS: *Sodium compounds, *Fluorides, *Silicates, Manufacturing methods, Solubility, Determination, *Solvents, Water, Hydrochloric acid, Sodium compounds, Chlorides, Reagents, Germicides, Mothproofing.

Korsh, M. P. and Ivanovskii, F. P.
ELIMINACION DEL OXIDO DE NITROGENO Y DEL ACETILENO DEL GAS EN HORNO DE COK POR UN METODO CATALITICO (Ochistka Koksovogo Gaza ot Okisi Azota i Atsetilena Kataliticheskim Metodom) (Elimination of Nitrogen Oxide and Acetylene from Coke-furnace Gas by a Catalytic Method). 19p. 15 refs. CID: 62-264.
Order from OTS, ETC or CID $0.80 62-29264

Trans. in Spanish of #Zhurnal Prikladnoi Khimii (USSR) 1956, v. 29, no. 10, p. 1561-1568.

DESCRIPTORS: *Acetylenes, *Nitrogen compounds, Oxides, Separation, *Combustion chamber gases, Catalysis.

Kuzub, N. A.
CLEANING OF CALANDRIA FROM INCRUSTATION BY MEANS OF THERMAL TREATMENT. [1963] 6p.
Order from OTS or SLA $1.10 63-14867

Trans. of Sakharnaya Promyshlennost' (USSR) 1949, v. 23, no. 10, p. 8-10.

DESCRIPTORS: Evaporators, Vacuum apparatus, *Scale, *Pipes, Separation, Heat treatment, Refineries.

By the thermal treating of the pipes with scale, the moisture and crystalline water which are connected with the organic and inorganic part of the scale are removed. The colloidal part and the organic compounds (including nitrogen compounds) are destroyed. This causes the physical-chemical properties of the scale to be changed. The diameter of the scale gets smaller which causes its separation from the pipes. Along the pipe-length the scale increases 2 mm. per 200 mm.; the scale falls out easily from the pipe.

Leijsen, W.
ULTRASONIC-RESONANCE THICKNESS MEASUREMENTS BY MEANS OF AN INTERMEDIATE LIQUID COLUMN. June/July 63, 2900 words.
Order from HB $5.80 HB-5587

Trans. of Materialprüfung (West Germany) 1962, v. 4, no. 11, p. 407-410.

DESCRIPTORS: *Resonance, Thickness, Measurement, *Ultrasonic radiation, Liquids, *Towers (Chemistry), Steel.

Moiseikov, S. F. and Starobinets, I. S.
CHIMISME DU PROCESSUS D'OBTENTION DES BITUMES OXYDES (Okhimizme Protsessa Polucheniya Okislennykh Bitumov) (The Process of Forming Oxidized Bitumens). 10p. 12 refs. FR-2323.
Order from OTS, ETC or CNRS $0.80 62-26447

Trans. in French of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1961, v. 6, no. 9, p. 41-47.

DESCRIPTORS: Mineral oils, Hydrocarbons, *Bitumens, *Oxidation.

Monthéard, Paul and Raucourt, Marc.
CONCERNING A NEW USE OF THE BY-PRODUCTS OF THE SUGAR INDUSTRY. [1963] 4p.
Order from SLA $1.10 63-14591

Trans. of [Academie des Sciences, Paris]. Compt[es] Rend[us] (France) 1948, v. 226, p. 1636-1637 (pub. by Gauthier-Villars et cie., Paris).

DESCRIPTORS: *Carbohydrates, Industries, *Colloids, Agriculture, *Insecticides, *Sprays, Wastes (Industrial), Ammonium radicals, Amines, Separation, *Foams, Salts, Oils, Sulfur, Surface-active substances.

Topics include the preparation of agricultural emulsions and the preparation of sulphur wetting agents.

Orlov, B. N. and Planovskii, A. N.
EFFECT OF VELOCITY OF VAPOUR ON PARTIAL MASS-TRANSFER COEFFICIENTS IN THE VAPOUR AND LIQUID PHASES IN RECTIFICATION IN PLATE COLUMNS (Vliyanie Skorosti para na Koeffitsienty Massootdachi Parovoi i Zhidkoi Faz pri Provedenii Protsessa Rektifikatsii v Tarelchatom Apparate). [1963] 8p. 2 refs. [DSIR] NLL M. 3884.
Order from OTS or SLA $1.10 63-19954

Trans. of Khim[iya] i Tekh[nologiya] Topl[iv] i Masel (USSR) 1961, v. 6, no. 3, p. 7-10.

DESCRIPTORS: *Mass transfer, Vapor, Velocity, Liquids, Towers (Chemistry), Phase studies, Ethanol, Water.

Preobrazhenskii, P.
PROSPECTS FOR THE UTILIZATION OF PRECIPITATES FROM THE TREATMENT OF CRUDE SYLVINITES. [1963] 5p.
Order from OTS or SLA $1.10 63-16055

Trans. of Gorno-Obogatitel'noe Delo (USSR) 1932, no. 1, p. 29-30.

DESCRIPTORS: *Wastes (Industrial), *Fertilizers, Chemical precipitation, *Potassium compounds, Chlorides, *Sodium compounds.

Ryabinin, D. D. and Polyv'yanyi, A. P.
EQUIPMENT FOR THE CONTINUOUS POLYMERIZATION OF POLYISOPRENE SYNTHETIC RUBBERS. USSR Industrial Development: Soviet Chemical Machine Building no. 29. 14 Aug 63, 8p. JPRS: 20642.
Order from OTS $0.50 63-31531

Trans. of Khimichna Promyslovist' (USSR) 1963, no. 2, p. 56-59.

DESCRIPTORS: *Industrial production, *Chemical engineering, Machines, *Synthetic rubber, Isoprene, Polymers, Polymerization, Worm gears, Design.

A description is given of the worm polymerization assembly for continuous operation to perform the polymerization process of SKI polyisoprene rubber in the liquid phase. Characteristics of the operation and the advantages of this assembly are given for use in flow or automatic line of chemical production. (Author)

Shcherbakov, I. G. and D'yakonov, I. M.
THE PROPER CURRENT DENSITY FOR THE ELECTROLYSIS OF CARNALLITE. [1963] [12]p. 9 refs.
Available from SLA on loan 63-18302

Trans. of Kalii (USSR) [1936] v. 5, no. 6, p. 36-40.

DESCRIPTORS: *Electrolysis, Potassium compounds, Magnesium compounds, Chlorides, Electric currents, Density, Economics, *Ores (Metal sources).

Taganovich, D. D.
THE EFFECT OF SOLUBLE IMPURITIES ON THE CRYSTALLIZATION OF AMMONIUM SULPHATE ON THE COKE BY-PRODUCT INDUSTRY. [1963] [27]p. 13 refs. Fuel Research Station Trans. NT667; [DSIR] NLL M. 3720
Order from OTS or SLA $2.60 63-19830

Trans. of Koks i Khimiya (USSR) 1957, no. 7, p. 31-38.

DESCRIPTORS: *Ammonium radicals, *Sulfates, Impurities, *Crystallization, Solubility, Coke, Solutions, Iron compound, Aluminum compounds, Complex compounds, Heterocyclic compounds, Crystal growth, Organic compounds.

The elongated form of the $(NH_4)_2SO_4$ crystals produced in coke by-product works is due not only to the effect of impurities but also to the formation of needle-like nuclei in the highly super-saturated mother liquor. The effective concentration in the saturator mother liquor of impurities affecting the crystal habit is less than that determined by analysis because the iron and aluminium impurities form complex ions in combination with the organic portion of the mother liquor. The conditions of crystallization of ammonium sulphate can be improved if there is a fixed concentration of pyridine bases in the mother liquor. Reduction of the concentration of iron and aluminum (chromium) in the mother liquor improves the form of the crystals and increases their volume rate of growth. The impurities can be removed by filtering the solution after the pyridine plant. (Author)

Vanecek, Voljtech, Markvart, Miroslav, and Lederer, Erich.
FLUIDIZED-BED DRYING. [1963] 11p. 36 refs.
Order from OTS or SLA $1.60 AEC-tr-5650

Trans. of Chem[icky] Prumysl (Czechoslovakia) 1960, v. 10(35) no. 10 p. 521-525.
Also available from ATS $14.75 as ATS-64P66C [1963] 11p.

DESCRIPTORS: *Fluidized solids, Dehydration.

The authors evaluate on the basis of data given in the literature and the results of their own experiments in the laboratory and pilot plant the possibilities of fluidized-bed drying, and introduce in this connection some technical and economical factors to be considered. (Author)

Wenusch, Adolf.
PROCESS AND EQUIPMENT FOR THE REMOVAL OF NICOTINE FROM FINISHED TOBACCO PRODUCTS. [1963] 8p.
Order from OTS or SLA $1.10 63-16699

Trans. of Austrian patent 124,286, appl. 27 Dec 29, pat. valid from 15 Apr 31, pub. 25 Aug 31.

DESCRIPTORS: *Tobacco, *Nicotine, Cigarettes, Material removal, Steam, Gas flow, Containers, Smokes.

Civil Engineering

UNDERGROUND-SYSTEM GRAVEL SIEVING MACHINE. 24 June 63, 5p. 3903/61 Japan.
Order from INT $13.50

Trans. of Japanese patent 3903/61 by Public. Corp. Japan National Railways, filed 5 Sep 58.

DESCRIPTORS: *Gravel, Separation, Underground structures.

Jarocki, Walenty.
HYDROLOGIC AND HYDRAULIC COMPUTATIONS OF CULVERTS AND SMALL BRIDGES, tr. by J. Dlutek. 1963 [160p] PL-480 Int
Order from OTS $1.50 60-21508

Trans. of mono. Hydrologiczne i Hydrauliczne Obliczenia Przepustow i Malych Mostow, Warsaw, 1953, 216p.

DESCRIPTORS: Hydrology, *Drainage, *Bridges, Structures, Road, Design, *Hydraulic research, Construction, *Civil engineering, Mathematical analysis

Topics include: methods of computation, (characteristics of culverts and small bridges, preliminary premises of hydrologic and hydraulic computations, the application of the theory of probability for computing the magnitude of rises, review of methods for computing maximum discharges); formulas for computing maximum discharges (Polish formulas, Russian formulas for computing maximum discharges produced by summer rainfall, Russian formulas for determining the volume of discharge of a spring high water, South European formulas, German formulas, American methods and formulas, guiding rules for the elaboration of the new runoff standards); hydraulic computations (water discharge passing through small openings, accumulation of water above a culvert, hydraulic computation of small openings).

Volotskoi, D. V.
SILICON-ORGANIC COMPOUNDS FOR FIGHT AGAINST SUBGRADE HEAVING. [1963] [5]p.
Order from OTS or SLA $1.10 63-18077

Trans. of Zheleznodorozhnyi Transport (USSR) 1963 [v. 45, no. 2] p. 75-76.

DESCRIPTORS: *Railroads, *Soils, *Moistureproofing, Freezing, Deformation, Inhibition, *Silicon compounds, Organic compounds, *Silanes, Chlorides, Methyl radicals, Ethyl radicals, Sodium compounds, *Silicates, *Silicones, Injection.

Organosilicon compounds are being used to inhibit roadbed frost heaving on the Kazan section of the Gorkii Railroad. Compounds which have proven sufficiently hydrophobic, harmless, and inexpensive include: ethyl- and methylchlorosilanes, $C_2H_5SiCl_3$ and CH_3SiCl_3; ethyl- and methyl-sodium-silicate, $C_2H_5Si(OH)_2ONa$ and $CH_3Si(OH)_2ONa$; and, suspensions of polyethyl-hydrosiloxen, C_2H_5SiOH. Water-resistant layers are formed by pressure injection into the subgrade layers of existing beds, or by mixing the hydrophobic materials with the subgrade soil during rail-bed construction. The treatment retains its effectiveness for 5 to 8 years.

Electrical and Electronic Engineering

ALKALINE PRIMARY CELL. 24 June 63, 3p. 2374/58 Japan.
Order from INT $9.00

Trans. of Japanese patent 2374/58 by Matsushita Denki Songyo Co. Ltd., filed 29 Dec 55.

DESCRIPTORS: *Alkaline cells, Batteries and Components.

AUTOMATIC RESTORATION CIRCUIT OF ELECTRIC CIRCUIT. 17 June 63, 4p. 8959/57 Japan.
Order from INT $10.50

Trans. of Japanese patent 8959/57 by Nagano Nihon Musen Co. Ltd., filed 19 Mar 55.

DESCRIPTORS: *Circuits, Automation, *Circuit breakers.

CIRCUIT-BREAKER OPERATING MECHANISM. 17 June 63, 6p. 3215/57 Japan.
Order from INT $18.00

Trans. of Japanese patent 3215/57 by Hitachi Seisakusho Ltd., filed 4 Nov 55.

DESCRIPTORS: *Circuit breakers

ELECTROLYTIC CELL FOR PRODUCTION OF CHLORATES. 20 June 63, 6p. 3768/59 Japan.
Order from INT $16.50

Trans. of Japanese patent 3768/59 by Hodogaya Kagaku Kogyo Co. Ltd., filed 17 Jan 57.

DESCRIPTORS: *Electrolytic cells, *Chlorates, Production.

HIGH VOLTAGE TRANSFORMER WITH INSULATING BODY IN THE LEAKAGE PATH AND METHOD FOR THE PRODUCTION OF SAID INSULATING BODY, tr. by J. R.-P. 16 Jan 63, 11p. (figs. omitted).
Order from OTS or SLA $1.60 63-15454

Trans. of Swiss patent 241,515, cl. 110b, by Maschinenfabrik Oerlikon, appl. filed 29 Sep 44, granted 15 Mar 46, pub. 16 Aug 46.

DESCRIPTORS: *Transformers, Electric potential, *Insulating materials, *Electric insulation, Coils.

The invention involves a high voltage transformer with insulating body in the leakage path, characterized in that the leakage path between each two coils to be insulated from each other is filled with crepe paper that is flanged at right angles at the points at which it emerges from the leakage path, in such a way that insulating flanges are formed without cuts in the paper, which flanges are applied against at least one of the end surfaces of the coils to be insulated. A method is given for preparation of the insulating body, characterized in that for the purpose of filling the leakage path between each two coils to be insulated from each other, an insulating cylinder is first wound with crepe paper strips and thereafter the ends of the cylinder of flanged. (Author)

METHOD FOR MANUFACTURING OF HIGH-FREQUENCY TRANSISTOR. 18 June 63, 5p. 761/62 Japan.
Order from INT $13.50

Trans. of Japanese patent 761/62 by Nihon Denki Co. Ltd., filed 7 July 59.

DESCRIPTORS: *Transistors, *High frequency, Manufacturing methods.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 65. 5 Aug 63, 22p. JPRS: 20494.
Order from OTS $0.75 63-31451

Trans. of Mashinostroitel' (USSR) 1963, no. 5, p. 45-48; Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 3, p. 69-70; and 8 selected articles from 1963 issues of 6 Russian newspapers.

DESCRIPTORS: *Inudstrial production, *Electrical equipment, *Welding, Industrial equipment, Machines, Transformers, Torches, Electro plating, Radiography, Powder alloys, Wire, *Electrodes, Management engineering, *Capacitors, *Transmission lines, *Ignition systems, Cathodes, *Electric motors, Magnetic materials, *Forging, Personnel management, *Electric insulation.

Contents:
Various new electrical machines and equipment exhibited at exhibition of achievements of national economy USSR in 1962, by A. F. Berzin
Instructions of administration of electrical equipment industry and instrument-building for 1963-65
Measures for specialization of Armenian electrical equipment industry plants
A device to convert ordinary high-voltage transmission lines into telephone wires
Tallin mercury arc rectifier plant improves design of experimental ingitron cathode unit
Baku electric machine-building plant produces electric motors for Cuba-bound equipment
Magnetic stations manufactured by the Erevan electrical apparatus plant
New radial forging machines used at "Dinamo" plant reduce waste
Benefits of newly instituted specialization at "Elektrotyazhmash" plant, by I. Pakhomov
Benefits of specialization at electrical machine plant, by V. Rindin
Defective workmanship connived at Slavyansk insulator plant, by I. Kharchenko.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 66. 9 Aug 63, 26p. JPRS: 20583.
Order from OTS $0.75 63-31495

Trans. of Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 2, p. 72 and 16 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Electrical equipment, Drives, *Hydraulic servomechanisms, *Circuit breakers, *Power transformers, Machines, *Generators, Welding, Paints, Soldering fluxes, Industrial relations, Steel, Electric motors, Shafts, *Explosive forming, *Electric cables, Ceramic materials, *Pumps, *Laboratory furnaces, *Electric furnaces, Industrial plants.

N. Shchetnikov
The Kishinev electromechanical plant imeni Kotovskii plans extensive expansion, by M. Petrov
The PPCH-18 detonator for joining conductors and cables
Fifty-two thousand kilowatt hydraulic generator for Saratovskaya GES
The "Azelektroizolit" plant starts manufacture of porcelain
Electromechanical plant imeni Kotovskii leads in production of submersible electric pumps, by I. F. Kostomarov
New laboratory electric furnace plant built, by A. Prokop'ev
Building plan for Kamo cable plant approved, by G. Amkhanitskii.

Contents:
The Konotop "Krasnii Metallist" plant makes electrohydraulic drives, by E. Lyashenko
The Leninakan electrotechnical and the Armenian electrical plants make high-voltage equipment
The "Polak-5065" pressure casting machine, fuses and accessories for sale
The "Elektrosila" plant makes tenth 225,000-kw generator from Bratskaya GES
The Tbilisi electric welding equipment plant given name imeni E. O. Paton
PKA type single-stage automatic reclosing (APV) circuit breakers for sale
Varnish, enamel and soldering flux for sale by Kishinev elektromachine building plant
The Zaporozh'e electric plant has automatic and other machines for sale
The party aids the "Gruzkabel'" plant workers in getting housing and dining room equipment, by I. Tsereteli
The Nizhnii Tagil metallurgical combine does not furnish the "Dynamo" plant with proper steel, by

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 67. 14 Aug 63, 21p. JPRS: 20646.
Order from OTS $0.75 63-31534

Trans. of 18 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Electrical equipment, *Generators, *Power equipment, *Ceramic materials Quality control, *Steam turbines, Electric furnaces, Electric motors, *Vacuum cleaners, *Driers (Apparatus), Electric cables, *Rubber, Fibers (Synthetic), Electric insulation, *Wire-winding machines, *Power transformers, *Drills, Industrial relations, Commerce.

Contents:

Half-million kilowatt hydrogenerators to be made by Elektrosila
Tile defects corrected at Slavyansk, by M. Gardyga and others
Elektrosila is producing Konakovskaya GRES equipment: a 300,000 kilowatt turbogenerator completed
Administrative measures taken to provide equipment for the Stavropol' chemical plant
Andizhan electric motor plant one year in operation
Elektromet plant over-fulfills electric vacuum cleaner quota
The Tallin "Teras" plant is producing electrical hair curlers and dryers, by I. Kivi
The Vil'nyus Elektrokonstruktsiya plant is supplying electrical equipment to the Kedaynyay chemical combine
New technology produces savings at the Sevkabel' plant
Centralized production of equipment needed in the rubber articles industry, by L. Prosterman
Lavsan successfully replacing silk in electrical insulation, by P. Nikitin
Shipment of equipment to the Kingisepp phosphorite mine is expedited
Miscellaneous advertisements concerning equipment
New coil winding machines improve production at Elektrosila, by V. Snitkin
Electrical equipment in production in the Kirghiz SSR
New electric boring bits from the Khar'kov electromechanical plant
Kiev workers visit the Kedainyai electrial apparatus plant, by P. Digris
Miscellaneous advertisements concerning equipment.

Arushanov, G. S.
A TWO-PLATE CRYSTAL LIGHT MODULATOR (Dvukhplastinchatyi Kristallicheskii Modulyator Sveta) tr. by Andre L. Brichant. Aug 63, 13p. 6refs
NASA Technical Trans. F-101.
Order from OTS $0.50 63-11686

Trans. of Tekhnika Kino i Televideniya (USSR) 1958, no. 12, p. 32-38.

DESCRIPTORS: *Modulators, *Light, Crystals, Operation, Polarization, Harmonic analysis, Electrical potential.

This is a short theoretical analysis of the operation of a two-plate crystal light modulator. The author found the modulator's optimum regime of operation, and the magnitudes of polarizing voltages and of harmonic distortions resulting from them. (Author)

Barattucci, Alcide.
METHOD OF PRODUCING PLATES AND INSULATING PANELS WITH ELECTRIC CONDUCTORS EMBEDDED IN THE MATERIAL WHICH TRAVERSE THE ENTIRE THICKNESS AND WITH THEIR TERMINALS TOUCH UPON THE TWO OPPOSING SURFACES. [1962] 4p. (figs. omitted).
Order from OTS or SLA $1.10 62-18548

Trans. of French patent 827,380, gr. 12, cl. 6, appl. 30 Sep 37, issued 14 Jan 38, pub. 25 Apr 38, appl. deposited in Italy 8 Oct 36.

DESCRIPTORS: Surfaces, *Electric terminals, Materials, Thickness, *Conductors, *Electric insulation, *Panel boards (Electricity), Walls, Sheets, Production.

Barkan, Ya. D. and Kuznetsov, I. I.
THE OPERATION OF TURBO AND HYDROGENERATORS WITH UNDER-EXCITATION (Opyt Raboty Turbo- i Gidrogeneratorov s Nedovozbuzhdeniem). 10 May 62 [10]p. Trafford Park trans. no. 3119; [DSIR] NLL M. 3797.
Order from OTS or SLA $1.10 63-19765

Trans. of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 11, p. 50-53.

DESCRIPTORS: *Turbines, *Generators, Excitation, Electric power production, Transmission lines, Load distribution.

When there is a surplus of charging power in the transmission lines, commensurate with the reactive load, it is possible during off-peak periods to preserve the voltage level in the system by means of under-excitation of the synchronous generators. The tested generators operate with under-excitation with active leads equal to 30% of the rated load, with complete reliability and without over-temperatures in the end sections. (Author)

Belen'ki, L. S. and Korobkova, V. P.
SWITCHING OF NO LOAD CURRENT OF 110kV TRANSFORMERS OF UP TO 60 MVA BY MEANS OF ISOLATORS AND DISCONNECTING SWITCHES. [1963] [13]p. (figs. omitted) 2 refs. [DSIR] NLL M. 3866.
Order from OTS or SLA $1.60 63-19886

Trans. of Elektricheskie Stantsii (USSR) 1961, v. 32, no. 10, p. 43-47.

DESCRIPTORS: *Power transformers, *Circuit breakers, *Electric switches.

Standard isolators type OD-110 and disconnecting switches type RLND-110 and RLN-110 will reliably make and break the magnetising current of transformers not exceeding 14.5A in any weather conditions. In relation to the power this value of the current means that, for $1.05U_{nom}$, unloaded 110kV, 40,5MVA transformers of any type can be connected and disconnected as well as 60MVA transformers with cold rolled steel cores, and for U_{nom} 60MVA transformers with hot-rolled steel cores. The distance between poles for isolators and circuit breakers in the case should be not less than 3.5 metres in the case of types OD-110 and RLND-110; 3 metres in the case of RLN-110. In some cases, when these distance cannot be maintained, it is possible to reduce them to 3 metres for OD-110 and RLND-110 and to 2.5 metres for RLN-110. Breaking reliability in the case is somewhat reduced. This reliability is entirely preserved if 40.5MVA transformers are switched out at the nominal voltage when their magnetising current does not exceed 10A. Transfer to transformers with en-load tap-changing after switching out the load to a condition of under-excitation allows a considerable reduction in the magnetizing current and at the same time lessening of the power and dimensions of the arc which occurs when they are switched out by isolators and disconnecting switches. (Author)

Broido, B. S.
MAGNETIC RECORDING METHOD. 18 June 63 [5]p. FTD-TT-63-504.
Order fromOTS or SLA $1.10 63-23435

Unedited rough draft trans. of Russian patent 145,073 (appl. 726,701/26, 17 Apr 61).

DESCRIPTORS: *Magnetic recording systems, Recording systems, Reproduction, Numbers, Coding.

The proposed method of magnetic recording - reproduction of number codes is distinguished by the fact, that to reduce the number of used recording tracks and magnetic heads the recording of codes n of discharge numbers is executed on two tracks, whereby on the first track is recorded the numbers code and two marking pulses at the beginning and end of the sending with subsequent pause in n + 2 cadence, and on the second track - cadence pulses, synchronized with code pulses. In addition, the proposed method is distinguished by the use of a pause cadence counter and a push-pull displacement register for recording the read code into the output register. (Author)

Frolov, A. I.
ELECTRIC DISCHARGE OVER MICRODISTANCES IN GAS MEDIUM. [1963] 12p. 4 refs.
Order from OTS or SLA $1.60 63-16639

Trans. of Elektrichestvo (USSR) 1961, no. 2, p. 73-76.

DESCRIPTORS: *Circuit breakers, *Electric discharges, Gases, Electric fields, Electrodes, *Glow discharges.

Garber, E. D.
ON ONE SYSTEM OF STEP-TYPE EXTREMAL CONTROL. 13 Feb 62 [13]p. 2 refs. FTD-TT-62-1884; AD-298 653.
Order from OTS or SLA $1.60 63-15910

Unedited rough draft trans. of [Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya]: Energetika i Avtomatika, 1960, no. 5, p. 169-173.

DESCRIPTORS: *Control systems, Complex variables, Theory, Effectiveness, Stability, Power plants.

This article considers a simplified proportional-step system of extremal control. It is assumed that the controlled object possesses an extremal characteristic which depends on a single independent variable. The principles of operation, maintainance of maximum efficiency and stability are developed.

Ginsberg, S. A., Gornshtein, V. M., and Sovalov, S. A.
BASIC PRINCIPLES OF THE CONSTRUCTION OF A COMPUTER FOR OPERATIVE CALCULATIONS OF THE ECONOMIC LOAD DISTRIBUTION IN A COMBINED POWER SYSTEM (Osnovnye Printsipy Postroeniya Vychilitel'noi Mashiny dlya Operativnykh Raschetov Ekonomichnogo Raspredeleniya Nagruzok v Ob'edinennoi Energosisteme). 1 March 62 [21]p. (foreign text included) 4 refs. Trafford Park trans. no. 3040; [DSIR] NLL M. 3804.
Order from OTS or SLA $2.60 63-19758

Trans. of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 5, p. 35-41.

DESCRIPTORS: *Computers, *Control systems, *Electrical networks, Electric power production, Distribution (Economics), Design, *Power equipment.
Topics include: the main principles on which the machine is based; calculating the active power losses in the network and limiting the power flows with respect to the inter-system connections; the structure of the machine; and, the object unit.

Golovań, A. T. and Yang, Y.
EINFLUSS DER AUSGLEICHSSTRÖME AUF DIE ANLAUFVERLUSTE BEIM ANLASSEN VON ASYNCHRONMOTOREN (The Influence of Transient Currents on the Starting Losses during Starting of Asynchronous Motors). 8p.
Order from TIB $1.55

Trans. in German from Elektrichestvo (USSR) 1961, no. 12.

DESCRIPTORS: *Transients, Electric current, Starting, *Induction motors.

Ipatov, P. M.
COMPENSATING CONTANCT FOR A TWO-WAY LAP WINDING OF A DIRECT CURRENT MOTOR ARMATURE, tr. by J. K. Skwirzynski. Feb 62 [10]p. 3 refs. [DSIR] NLL M. 3689.
Order from OTS or SLA $1.10 63-23388

Trans. of Vestnik Elektroprom[yshlennosti] (USSR) 1961 [v. 32] no. 7, p. 25-28.

DESCRIPTORS: *Electric motors, *Coils, *Armatures, Direct current, Circuits.

This analysis shows that for a two-way lap winding of armature, when compensating contacts are joined to one side of the armature, these contacts should be uniformly distributed in the winding runs, in each interpolar segment. It is not recommended to use half number of compensating contacts, joined to the collector lamination from one side, as this will lead to the appearance of compensating currents and to non-uniform loading of the winding runs. (Author)

Klingsporn, Kurt.
APPARATUS FOR PRODUCING BIOCLIMATIC CONDITIONS IN ENCLOSED SPACES BY MEANS OF ELECTROSTATIC FIELDS, tr. by F. H. B. 29 Apr 63, 5p. (figs. omitted).
Order from OTS or SLA $1.10 63-19616

Trans. of German Auslegeschrift 1,063,293, cl. 21 g 24/01, internat'l cl. H 05g, by Kristall-Verarbeitung Neckarbischofsheim G. m. b. H., appl. 7 Apr 56, appl. announced and laid open to inspection 13 Aug 59.

DESCRIPTORS: *Electrostatic fields, *Electrical equipment, Circuits, Design, Passenger vehicles, Climatology.

The invention relates to an apparatus for producing bioclimatic conditions in enclosed spaces by means of electrostatic fields generated by high electric d.c. potentials of very small E.M.F. with employment of voltage doubler circuits in high frequency generators by rectification of high frequency potentials of a specific frequency transformed by a step-up transformer, especially for utilization in enclosed spaces of small height, e.g. in motor vehicles. The apparatus to which the invention relates consists essentially therein that there is provided between the wires constituting field electrodes two or more taut wires or other conductor structures which are coupled in parallel to the capacity of the transmission circuit inserted between generator and rectifier, and by which when a living being, e.g. a person, approaches these additional conductors, the transmission circuit, due to the capacity change, is detuned, whereby the power of the transmission is reduced and an undesirably high field intensity change is avoided. (Author)

Köhler, Karl.
A PULSE TIME MODULATION SYSTEM FOR 60 MESSAGE CHANNELS (PPM 60). [1962] 17p.
Order from SLA $1.60 63-10674

Trans. of Siemens Zeitschrift (West Germany) 1960, v. 34, no. 1, p. 26-31.

DESCRIPTORS: *Multiplex, *Communication systems, *Microwave communication systems, Pulse communication systems, Pulse modulation, Design.

Korolev, E. M., Roi, V. I., and Matveeva, V. A.
ISOLATION CONTRE L'EAU DES STRAIN-GAUGES MESURANT LES DÉFORMATIONS SOUS PRESSION ÉLEVÉE (Insulation from Water of Strain-Gauges Measuring Deformations at High Pressure). 6p. FR-146.
Order from OTS, ETC or CNRS $0.80 62-26523

Trans. in French of Pribory i Tekhnika Laboratornoi Raboty (USSR) 1959, no. 10, p. 1250-1252.

DESCRIPTORS: *Strain gages, *Deformation, *High pressure research, Measurement, Water, *Electric insulation.

Kotowski, J., Muschaweck, J., and Fritz, K.
HONEYCOMB GRIDS FOR KLYSTRONS (Wabengitter für Klystrons). [1963] [22]p. (foreign text included).
Order from SLA $2.60 63-18085

Trans. of Frequenz (West Germany) 1962, v. 16, no. 3, p. 69-76.

DESCRIPTORS: *Reflex klystrons, *Electron tube parts, Honeycomb cores, Copper, Life expectancy.

The development of a reflex kylstron for wideband transmission at frequencies around 11 Gc led to the problem how to make grids capable of carrying particularly high loads. Honeycomb grids of copper qualify particularly well for this purpose because of their high optical transparency. A manufacturing method is described which avoids the irregularities appearing in the boundary zones of the honeycomb grids known so far. A theoretical analysis is made of the influence of shape and kind of the load onto the thermal performance and of the useful life, and a new grid configuration is derived from it. (Author)

Krapf, Siegfried.
PLANT FOR PRODUCTION OF ELECTRICAL ENERGY BY A CURRENT OF IONIZED GASES, tr. by J. B. 21 Jan 63, 5p. (figs. omitted).
Order from OTS or SLA $1.10 63-15453

Trans. of Italian patent 543,706, cl. IX, filed 27 Apr 53, granted 24 May 56, printed June 58 (priority: Germany, pat. appl. S. 16374 27 June 50).

DESCRIPTORS: *Electric power production, Industrial plants, Electric currents, Energy, *Gas ionization.

The invention concerns a plant for production of electrical energy by means of currents of ionized gases, characterized in that two electrodes having different electronic work functions are arranged in the gas so as to act as cathode and anode on the basis of surface ionization and surface neutralization. The gas is set in motion by external mechanical forces. The gas is supplied to the electrodes through an arrangement of nozzles, and the nozzle arrangement is formed as a combustion nozzle for a liquid or gaseous fuel. A temperature difference is established by artificial means (heating and/or cooling devices) for thermal convection motion of the gas between the electrodes. (Extract)

Marshak, I. S., Shil'tsov, V. P., and Shchukin, L. I.
ON THE LIMITED FREQUENCY OF FLASHES OF PULSE TUBES. 1961 [9]p. 12 refs. AERDL T-1658; AD-290 553.
Order from OTS or SLA $1.10 63-13405

Trans. of [Russian] article from an unidentified source, n.d.

DESCRIPTORS: *Stroboscopes, *Flash lamps, *Discharge tubes, *Gas discharges, *Glow discharges, *Electric discharges, *Frequency, Circuits, Electric potential, Electric currents, Capacitors, Resistors, Timing circuits, Thyratrons, Pulse generators, Relaxation time.

The limited frequency of discharges, related to the recovery time of the electric strength of the tube's discharge interval, depends on its design, voltage supply, power being dissipated in the lamp, and the voltage increase curve on the contact electrodes in the intervals between discharges. Two extreme lamp designs were investigated: one with a capillary quartz discharge tube of internal diameter -- 0.5 mm, length -- 70 mm, and the other with a large spherical envelope of envelope diameter -- 65 mm, distance between electrodes -- 6 mm. The different variations of circuit diagrams used prevented a voltage increase in the tube after the regular flash by means of a pause in the charge current in the storage capacitor circuit. (Author)

Morgulis, N. D. and Marchuk, P. M.
INVESTIGATION OF A CESIUM ARC RECTIFIER.
[1963] [17]p. (figs. omitted) 11 refs.
Order from OTS or SLA $1.60 63-18439

Trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1958, v. 3, no. 1, p. 95-103.

DESCRIPTORS: *Cesium electron tubes, *Rectifiers, Electron tubes, Cathodes (Electron tubes), Nickel, Tungsten, Design, Operation.

Results are presented of an investigation carried out on the various properties of a cesium arc rectifier. A special feature of this rectifier is that it makes it possible to obtain a very high discharge current density on the cathode j_O with a rather small potential drop U_a. This is connected with the formation of an active cesium film on the surface of cathode, as well as with the easy ionization of the atmosphere of cesium vapor. Some properties of a cesium filled triode were studied; particularly, its starting characteristic is measured, as well as characteristics of phase control by the average value of rectified current. Data obtained here indicate the possibility of creating a controlled low-voltage rectifier. By testing a cesium tube in an impulse regime, a current density reaching ≈ 400 amp./cm^2 was obtained on a tungsten cathode. (Author)

Normets, V. A.
COORDINATION OF ACTIVITIES IN THE FIELD OF ELECTRONIC MEASURING INSTRUMENTS.
22 June 63 [7]p. FTD-TT-63-570.
Order from OTS or SLA $1.10 63-23670

Unedited rough draft trans. of #Priborostroenie (USSR) 1963, no. 4, p. 29.

DESCRIPTORS: *Conferences, Research program administration, *Measuring devices (Electrical and Electronic), Meters.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
FUEL CELLS. Aug 63, 17p 204refs
OTS Selective Bibliography SB-447, rev.
Order from OTS $0.10 OTS SB-447 (Rev.)

DESCRIPTORS: *Batteries and components, *Energy conversion, *Fuel cells, *Bibliographies

Lists 204 reports and translations added to the OTS collection during the period 1958 through August 1963. Covers research on fuel cell materials, fuel cell batteries, gaseous fuel cells, liquid metal fuel cells, biochemical fuel cells, redox fuel cells, hydrocarbon fuel cells, fuel cell catalysts and other fuel cells and related technology. (Author)

Savel'ev, V. P. and Shmatovich, V. V.
220, 330 and 500 kV LIGHTNING ARRESTERS WITH MAGNETIC BLAST (Razryadniki 220, 330 i 500kv dlya Zashchity ot Atmosfernykh Perenapryazhenii s Magnitnym Gasheniem Dugi). [1963] 19p. (foreign text included) 2 refs.
Order from OTS or SLA $1.60 63-16708

Trans. of Vestnik Elektropromyshlennosti (USSR) 1960, v. 31, no. 1, p. 24-30.
Another trans. is available in German from T. I. B. $1.55, 9p.

DESCRIPTORS: *Lightning arrestors, *Atmospheric electricity, Voltage regulators, Magnetic fields, Design, Tests.

Shakhanov, V. S.
METHODS OF CALCULATING ECONOMIC LOAD DISTRIBUTION IN COMBINED POWER SYSTEMS ON DIGITAL COMPUTERS (Metodika Vychisleniya na Elektronnykh Tsifrovykh Mashinakh Ekonomicheskovo Raspredeleniya Nagruzok v Obledinennykh Energosistemakh). 27 Feb 62 [26]p. (foreign text included) 11 refs. Trafford Park trans. no. 3039; [DSIR] NLL M. 3805.
Order from OTS or SLA $2.60 63-19756

Trans. of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 5, p. 27-34.

DESCRIPTORS: *Computers, *Electrical networks, Electric currents, Distribution (Economics), Numerical analysis, *Power equipment.

The present article puts forward the algorithm and the block diagram of a programme for economic load distribution in combined power systems, and examines the results of an analysis of several elements of the algorithm as well as the results when it is tested under the practical conditions of a combined power system.

Sirota, I. M.
CURRENT TRANSFORMERS WITH AN AIR GAP (Transformatory Toka s Razomkhutym Stal'nym Serdechnikom). 26 Jan 62 [17]p. (foreign text included) 10 refs. Trafford Park trans. no. 3127; [DSIR] NLL M. 3796.
Order from OTS or SLA $1.60 63-19766

Trans. of Elektrichestvo (USSR) 1961, no. 1, p. 56-61.

DESCRIPTORS: *Transformers, Power transformers, Electric currents, Magnetic cores, Design, Operation.

Topics include the principles of the design and use of current transformers with an open steel core, and a comparison of the properties of current transformers with open and closed cores.

Verte, L. A.
METHOD OF COOLING WINDINGS AND CORES OF ELECTROMAGNETIC PUMPS, DOSAGE METERS AND LIQUID METAL MIXERS. 18 June 63 [4]p. FTD-TT-63-497.
Order from OTS or SLA $1.10 63-23449

Unedited rough draft trans. of Russian patent 143,983 (appl. 722,420/22, 17 Mar 61).

Descriptors: *Coolants, *Liquid metals, *Gallium, Electrical equipment, Electromagnetic pumps, Dosage, Meters.

The method of cooling is characterized by the fact, that for the purpose of preventing explosions and to increase the contact section of the tubular winding, in role of coolant is used liquid metal with low melting point and high boiling point, e.g. gallium.

Vetoshkin, S. S. and Rozov, B. C.
ATTACHMENT FOR MEASURING SMALL TIME INTERVALS. 7 May 63 [11]p. 3 refs. FTD-TT-63-149.
Order from OTS or SLA $1.60 63-23106

Unedited rough draft trans. of #Avtomatika i Telemekhanika (USSR) 1962 [v. 23] no. 2, p. 49-59.

DESCRIPTORS: *Time-interval counters, Timing circuits, Electromagnetic pulses, *Measuring devices (Electrical and Electronic), Design, Operation.

Mechanical Engineering

INSTALLATION FOR THE VENTILATION OF GERM DRUMS. [1963] 4p. (figs. omitted).
Order from OTS or SLA $1.10 63-16331

Trans. of German patent 447,392, cl. 6a, gr 4, T30109 IV6a, granted 7 July 27, issued 25 July 27, pat. as of 26 Mar 25, by J. A. Topf & Sons.

DESCRIPTORS: *Ventilation, Ventilation drums, Air-cooled, Ventilation ducts, Ventilation fans.

An installation for ventilation of germ drums with installed sieve and supply of either tempered or moistened air, fresh or totally or partly re-employed from the drum interfaces is described. The drum is connected to air pipes and switching organs to such an extent that the air can be driven through the drums selectively or simultaneously from both interfaces, from bottom to top or vice versa from one interface. Above and below the drum with both drum interfaces and by switching and adjusting organs with fans connecting air channels are installed in such a way that they are connected among themselves with one drum interface by branch channels which are commanded by selector or regulation organs for the purpose of optional guidance of constant or partly renewed air or only of circulating air in varying directions through the drum and with previous tempering and moistening installations. The channel commanding the channels are connected amongst themselves by a conduit with reversing organisms for the purpose of optional or repeated deviation of the entire or one part of the used air.

USSR INDUSTRIAL DEVELOPMENT: SOVIET POWER MACHINERY NO. 16. 15 July 63, 31p. JPRS: 20172.
Order from OTS $1.00 63-31286

Trans. of Znanie-Sila (USSR) 1963 [v. 38] no. 5, p. 16-23.

DESCRIPTORS:*Industrial production, *Power equipment, *Machines, Turbines, *Steam turbines, Design, *Engineering personnel.

Contents:
In the field of giant turbines, by L. Vladimirov
A 30-meter long steam turbine
Exchanging notes with foreign engineers, by L. Shubenko-Shubin.

Badyl'kes, I.
SIMILARITY CEITERIA OF THE THERMODYNAMIC PROPERTIES OF REFRIGERANTS. [1963] 9p.
Order from ATS $9.00 ATS-02Q71R

Trans. of Kholodil'n[aya] Tekhnika (USSR) 1959, v. 36, no. 4, p. 10-14.

DESCRIPTORS: *Refrigerants, *Thermodynamics.

Berman, L. D. and Fuks, S. N.
HERMETIC SEALING OF TUBE PLATES OF STEAM TURBINE CONDENSERS, tr. by J. K. Skwirzynski. Apr 62 [11]p. 6 refs. [DSIR] NLL M.3863.
Order from OTS or SLA $1.60 63-19889

Trans. of Elektricheskie Stantsii (USSR) 1960 [v. 31] no. 4, p. 32-36.

DESCRIPTORS: Pipes, Metal plates, *Metal seals, Bituminous coatings, *Steam condensers, Steam turbines, Metal joints, Mechanical working, Hydraulic seals, Steam pipes, Cooling.

The traditional method of fixing the tubes in the tube plates of steam turbine condensers (by following them) does not give a satisfactory hermetic seal over long periods; the very slight intake of cooling water is unacceptable in modern power stations. The authors specify the conditions which must be observed in rolling tubes and describe a supplementary process used to ensure hermetic sealing. Four to six layers of bitumen mastic are applied over two coats of a base material. Both welded and rolled joints can be hermetically sealed in this way. Six references are appended.

Chuiko, I. T.
INVESTIGATION OF THE FIXTURES OF ROPES WITH THE AID OF WEDGES (Issledovanie Zepantsirovki Kanata pri Pomoshchi Klinovykh Ustroistv) tr. by L. Meyer. [1963] [9]p. S. M. R. E. Trans. no. 4712; [DSIR] NLL M.3883.
Order from OTS or SLA $1.10 63-19955

Trans. of N[auchno]-I[ssledovatel'skii] I[nstitut po Bezopasnosti Rabot v Gornoi Promyshlennosti]. Sbornik Statei (USSR) 1960, v. 14, p. 23-26.

DESCRIPTORS: *Fastenings, *Wedges, *Wire, Cables (Mechanical), Steel, Fatigue (Mechanics).

Rope fastening in wedge capels with the strands of the rope bending around the wedges is a convenient and reliable method of fastening. Even obvious faults in the correct procedure of fastening, easily discernable by external examination, do not reduce the strength of the fastening by more than 20%. Faults in making the fastening have an inconsiderable effect on the fatigue strength of the rope. To increase the fatigue strength of the fastened rope, the wedge surfaces gripping the working part of the rope must provide a gradual in-

crease in the transverse loading of the section of rope that is inside the wedge capel. The transition from the frontal planes of the wedges to the inner working planes must be made with a radius of not less than 5 mm. Wedge capels can be used for fastening ropes in inclined freight-and also man winding installations. (Author)

Fuks, S. N.
THE RUPTURE OF COOLING TUBES IN STEAM TURBINE CONDENSERS. [1963] [12]p. 8 refs.
[DSIR] NLL M. 3860.
Order from OTS or SLA $1.60 63-19891

Trans. of Elek[tricheskie] Stantsii (USSR) 1960 [v. 31] no. 7, p. 20-25.

DESCRIPTORS: *Pipes, Failure (Mechanics), *Steam condensers, Steam turbines, Metal joints, Vibration, Steam pipes, Wedges, Cooling.

Kemel'man, M. N.
DETERMINING THE EFFICIENCY OF THE CENTRIFUGAL SEPARATOR OF A ONCE-THROUGH BOILER UNDER INDUSTRIAL CONDITIONS (Opredelenie Effektivnosti Tsentrobezhnogo Separatora Pryamotochnogo Kotla v Promyshlennykh Usloviyakh). 18 Apr 62 [10]p. (foreign text included) 6 refs.
Trafford Park trans. no. 3165; [DSIR] NLL M. 3793.
Order from OTS or SLA $1.10 63-19769

Trans. of Elekt[richeskie] Stantsii (USSR) 1962 [v. 33] no. 3, p. 11-13.

DESCRIPTORS: *Centrifuge separation, *Boilers, Industrial plants, *Turbines, *Steam power plants.

Kemel'man, M. N.
RESULTS OF TESTING A WET STEAM FRACTIONAL SEPARATOR (Rezul'taty Ispytanii Fraktsionnogo Separatora Vlazhnogo Para). 9 Apr 62 [11]p. (foreign text included). Trafford Park trans. no. 3164; [DSIR] NLL M. 3794.
Order from OTS or SLA $1.60 63-19768

Trans. of Elekt[richeskie] Stantsii (USSR) 1957, v. 28, no. 8, p. 4-7.

DESCRIPTORS: *Centrifuge separation, Velocity, *Steam, Humidity, Moisture, Distillation, *Boilers, Turbines, *Steam power plants.

The nature of the speed distribution in the active part of a centrifugal separator depends on the ratio of the diameters of the tangential inlet and the active part of the separator $\frac{d_{m.8}}{D}$. The larger this ratio, the more uniform will be the velocity field. Since, with wet steam centrifugal separation, the humidity over the cross section changes with respect to the parabolic type curve and the steam in the central part has a minimal humidity, a separating system can be created, the working principle of which consists in the stage-by-stage separation of the fully dried steam in the fractional separators. (Author)

Voulis, L. A., Gourvich, A. M., and Klinger, V. G.
LIGHT MODELLING OF RADIANT HEAT EXCHANGE IN FURNACES (Svetovoe Modelirovanie Luchistogo Teploobmena v Topkakh). [1962] [11]p. 11 refs.
Order from OTS or SLA $1.60 62-33770

Trans. of Teploenergetika (USSR) 1961, v. 8, no. 2, p. 67-71.

DESCRIPTORS: *Furnaces, *Heat transfer, *Radiant heating panels, Models (Simulations), Model tests, *Heat exchangers.

This article presents a method of light modeling, and on the basis of concrete examples shows the effectiveness of this method as an auxiliary means for the investigation of radiant heat exchange. (Author)

Ordnance, Missiles, and Satellite Vehicles

Al'pert, Ya. L.
HIGH-ALTITUDE ATOMIC EXPLOSIONS, DISTURBANCES IN THE IONOSPHERE AND NEAR-EARTH SPACE, tr. by Sergei Shewchuck. Nov 62 [26]p.
Order from OTS or SLA $2.60 UCRL Trans-890(L)

Trans. of Priroda (USSR) 1962, v. 51, no. 8, p. 3-13.

DESCRIPTORS: *Nuclear explosions, Ionosphere, Atmosphere, Explosion effects, High altitude, Explosions.

Apin, A. Ya. and Bobolev, V. K.
INFLUENCE DE LA STRUCTURE PHYSIQUE ET DE L'ÉTAT AGRÉGATIF SUR LES PROPRIÉTÉS DÉTONANTES DES EXPLOSIFS (The Effect of Physical Structure and State of Aggregation on the Sensitivity of Explosives). 5p. 4 refs.
Order from OTS, ETC or CNRS $0.80 62-26504

Trans. in French of Zhurnal Fizicheskoi Khimii (USSR) 1946, v. 20, no. 11, p. 1367-1371.
A trans. is available in English from LC or SLA mi$1.80, ph$1.80 as AEC-tr-3781 [1959] 4p.

DESCRIPTORS: *Explosive materials, *Detonation, Physical properties, *TNT, *Nitroglycerin, Sensitivity.

Apin, A. Ya. and Lebedev, Yu. A.
À PROPOS DE LA DÉCOMPOSITION EXPLOSIVE DE L'HEXOGÈNE (Explosive Decomposition of Hexogen). 7p. 7 refs.
Order from OTS, ETC or CNRS $0.80 62-26921

Trans. in French of Akademiya Nauk SSSR. Doklady, 1957, v. 114 [no. 4] p. 819-822.

DESCRIPTORS: *Explosive materials, *RDX, Explosions, Decomposition.

Gerd, M. A. and Gurovskii, N. N.
THE FIRST ASTRONAUTS AND THE FIRST SCOUTS OF OUTER SPACE. 23 May 63 [262]p. FTD-TT-62-1300.
Order from OTS or SLA $17.00 63-23187

Unedited rough draft trans. of mono. Pervye Kosmonavty i Pervye Razvedchiki Kosmosa, Moscow, 1962, 198p.

DESCRIPTORS: *Space flight, *Astronauts, Dogs, *Space medicine, Training, Rockets, Space biology.

A non-technical account dealing with the preparations for the flights of Layka, Gagarin, and Titov and with certain aspects of the scientific results of these flights.

Sanitation and Safety Engineering

Leshakov, Yu. T.
DETERMINATION OF THE TOTAL NUMBER OF BACTERIA IN WATER BY MEANS OF MEMBRANE ULTRAFILTERS AND TRIPHENLTETRAZOLIUM (Opredelenie Obshchego Chisla Bakterii v Vode na Membrannykh Ul'trafil'trakh s Primeneniem Trifenil-tetrazola). 15 May 63, 4p. 2 refs. Trans. V-1829.
Order from OTS or SLA $1.10 63-19462

Trans. of Gigiena i Sanitariya (USSR) 1962, v. 27, no. 11, p. 48-49.

DESCRIPTORS: *Bacteria, *Water supplies, Membranes, Culture media, Toxicity.

Rokhlin, G. A. and Zas'ko, V. M.
A PYRO-MECHANISM. 26 July 63 [9]p. FTD-TT-61-366
Order from OTS or SLA $1.10 63-23642

Unedited rough draft trans. of Russian patent 129,950 appl. no. 639,728, 26 Sep 59.

DESCRIPTORS: *Pyrotechnic projectors, *Stabilization systems, *Ejection seats, Parachutes, *Aviation safety.

This is a pyro-mechanism for actuating the parachutes to stabilize a pilot ejection seat; it incorporates a telescoping rod and a pyro-head with a pyro-cartridge. It has the following special features; it has two pyro-heads to ensure better stabilization of the airborne ejection seat, by withdrawing the small parachute out of the backwash zone. The upper head, connected to the rod by means of a ball lock and an extension strand, carries the small stabilizing parachute; the lower head has a look which attaches the pyro-mechanism to the seat and fires it from the seat, actuating the second stabilizing parachute. (Author)

Rybitskii, Z.
PURIFICATION OF VENTILATION AIR IN THE VISCOSE INDUSTRY. [1963] 4p. [refs. omitted].
Order from OTS or SLA $1.10 63-18397

Trans. of Khim[icheskie] Volokna (USSR) 1960, no. 3, p. 46-47.

DESCRIPTORS: *Textile industry, *Viscose, Ventilation, Purification, *Rayon, Towers (Chemistry), *Sodium compounds, Hydroxides, Packing materials, *Iron compounds, Oxides, Carbonates, Ores, *Atmospheric pollution, *Waste gases, Carbon compounds, Hydrogen compounds, *Sulfides.

The gases escaping during the formation of viscose fiber are discharged by exhaust ventilation systems in mixtures with air into the atmosphere which becomes contaminated. To lower the amount of noxious gases

Yanov, A. P.
CONTROL OF DUST AND TOXIC GASES AFTER SHOTFIRING (Bor'ba s Pyl'yu i Yadovitymi Gazami Paslo Vzryvnykh Rabot) tr. by L. Meyer. Mar 62 [7]p. 4 refs. S. M. R. E. Trans. no. 4669; [DSIR] NLL M. 3743.
Order from OTS or SLA $1.10 63-19814

Trans. of Gornyi Zhurnal (USSR) 1961, no. 3, p. 70-73.

DESCRIPTORS: *Dusts, *Poisonous gases, *Carbon compounds, *Monoxides, *Carbon monoxide eliminators, *Chemisorption, Detonations, *Mining engineering.

Vorob'eva, R. S.
LATEST MAXIMUM PERMISSIBLE CONCENTRATION OF POISONOUS GASES, VAPORS AND DUST IN THE AIR OF INDUSTRIAL PREMISES IN THE U.S.A. AND THE U.S.S.R. [1963] [8]p. 9 refs.
Order from OTS or SLA $1.10 AEC-tr-5672

Trans. of Gigiena i Sanitariya (USSR) 1962, v. 27, no. 8, p. 79-85.
Another trans. is available from OTS or SLA $1.60 in 63-13257, JPRS-16302, 23 Nov 62 [21]p.

DESCRIPTORS: *Atmospheric pollution, *Waste gases, *Poisonous gases, *Vapors, *Dusts, Standards, Industrial plants, *Industrial medicine.
(H_2S and CS_2) discharged into the atmosphere, attempts were made: (1) to recover the maximum of CS_2 from the fiber during bleaching and (2) to recover CS_2 and H_2S from concentrated air-gas mixtures. HS_2 recovery from the ventilation air was carried out by absorption from exhaust gases by means of alkaline absorption towers; absorption towers with a mixture of lautmasse in sodium hydroxide solution; and towers with limonite packing. CS_2 absorption from the ventilation ari was by activated carbon. CS_2 desorbed by water vapor from the carbon may be used without further purification. The best methods found were towers packed with "lautamasse" for freeing the air from H_2S and carbon absorbers for the recovery of CS_2.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

CONTINUOUS THICKENING AND FILTRATION PROCESSES. [1963] [10]p.
Order from SLA $1.10 63-16371

Trans. of Sucrerie Française, 1955, v. 96, no. 7, p. 227-230.

DESCRIPTORS: *Filters (Fluid), Liquid filters, Refineries, Industrial equipment, *Carbohydrates.

A successful system was developed for the continuous filtration of the first carbonation juices of sugar, consisting of a rotary thickener and a rotary filter with washing process. A description is given of the apparatus in operation, of the cleaning of the filter, and of the washing of scums.

INTERNATIONAL ASSOCIATION FOR CEREAL CHEMISTRY: ICC CONVENTION, 13 MAY-3 JUNE 60, VIENNA: [SUMMARIZATION OF REPORTS]. [1963] [19]p.
Order from SLA $1.60 63-18008

Trans. of unidentified mono., n.p., n.d.

DESCRIPTORS: *Cereals, Chemistry, *Bakery products, *Starches, *Flour, Potatoes, Quality control, Minerals, Analysis, Seeds, *Proteins, Impurities, *Documentation, *Conferences, Abstracts.

Contents:
[Introduction]
The baking value as seen from the French point of view, by J. Bure
Grinding and baking capacity from the viewpoint of the producer, by F. Schweitzer
Inspection of cereal, cereal and starch products and potato flour, by C. Jelier
Determination of the ash content, by G. Brueckner
The physical characteristics of the corn as a basis for the determination of the grinding capacity, by L. Ljubarskii
Determination of grinding capacity of cereal theory and practice, by Werner Schaefer
Determination of protein content, by J. A. Shellenberger
Determination of the impurities, by W. Seibel
Documentation, by K. Ritter.

METHOD FOR MANUFACTURING OF AMINO ACID CONDIMENTS. 18 June 63, 4p. 9293/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 9293/62 by Tatuno Shooyu Co., Ltd., filed 14 Sep 60.

DESCRIPTORS: *Amino acids, Manufacturing methods, *Condiments.

WHEAT CONDITIONING. [1963] 6p.
Order from SLA $1.10 63-14978

Trans. of die Mühle (West Germany) 1955 [v. 92] no. 44, p. 589ff.

DESCRIPTORS: *Wheat, *Flour, Processing, Heat treatment, Steam.

Buhtz, Ernst.
PROCEDURE FOR IMPROVEMENT OF THE BAKING CAPACITY OF FLOURS AND DOUGHS. [1963] 2p.
Order from OTS or SLA $1.10 63-18027

Trans. of German patent 675,657, cl. 2e, gr. 2, B 167014 Wa/2E, patented as of 29 Sep 34, pub. concerning the pat. issue 27 Apr 39, issued 13 May 39.

DESCRIPTORS: *Flour, *Bakery products, Processing, Cellulose.

The invention involves a procedure for improvement of the baking capacity of flours or doughs, characterized by the addition of small quantities of water soluble cellulose derivates, particularly the water soluble cellulose ethers. (Author)

Franjou, Lucien.
PROCEDURE AND ARRANGEMENT FOR THE TAPIOCA MANUFACTURE AS A CONTINUOUS OPERATION. [1963] [8]p.
Order from OTS or SLA $1.10 63-14776

Trans. of French patent 906,502, gr. 2, cl. 4, appl. 25 Feb 44, granted 22 May 45, pub. 9 Jan 46. Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-16648, 20 May 60 [8]p.

DESCRIPTORS: Food, Manufacturing methods, *Starches, Processing.

The present invention has for its objective: (1) A procedure for the manufacture of tapioca as a continuous operation; this procedure is essentially characterized by the succession of the following operations: Introduction and moistening of the starch with water of 80° and kneading of the whole, until one obtains a homogenous dough; passage of the dough through a boiling substance heated up to 160°, at their exit the cooked material is sent into the flaking machine, where it is cut into small pieces, after having passed through a grill in order to form the humid tapioca. Progression of the tapioca into a wind box, avoiding the sticking of the tapioca flakes, which continue to progress into a heating arrangment, at least drying in layers of 2 cm during one and a half hour in a band dryer, at the exit of which the tapioca is ready for packaging. (2) An arrangement for the execution of this procedure. (Author)

Garino, Mario and Ciurlo, Remo.
THE WASHING OF FILTER CLOTHS FOR SUGAR FACTORIES. [1963] [9]p. 2 refs.
Order from SLA $1.10 63-16356

Trans. of Ind[ustria] Sacc[arifera] Ital[iana] 1957, v. 50, p. 35-37.

DESCRIPTORS: Manufacturing methods, *Cleaning, *Filters (Fluid), *Carbohydrates, Processing, Food.

Gorban', D. V. and Tverdokhlebov, L. S.
INCREASING THE YIELD OF WHITE SUGAR. [1963] [6]p. 2 refs.
Order from OTS or SLA $1.10 63-16357

Trans. of Sakhar[naya] Prom[yshlennost'] (USSR) 1957 [v. 31] no. 7, p. 20-23.

DESCRIPTORS: *Carbohydrates, Colors, Moisture, Production, Beets, *Cyclones (Mechanical)

Ingelman, B. and Tiselius, A.
LATER RESULTS OF THE COLLOIDAL CHEMICAL RESEARCH ON JUICES IN UPSALA. Rept. [presented] at the Annual Meeting of the Association of Regents, Arloev, 1943. [1963] 20p.
Order from SLA $1.60 63-14562

Trans. of mono. Foerh. Svenska Suckerfabriksdirigenternas Foeren., Sammantraedens, n.p., 1943, II, 16p.

DESCRIPTORS: *Colloids, *Albumins, Liquids, Amino acids, Beets, Pectins, Electrophoresis, Colors, Nitrogen, Physical properties, Chemical analysis, Molecular weight.

(See also 63-14604)

Khorin, T. A.
PROCESSING OF WHALE OIL FOR THE PRODUCTION OF EDIBLE HYDROGENATED FAT (Iz Opyta Pererabotki Kitovogo Zhira na Pishchevoi Salomas). July 63 [5]p. 2 refs. RTS-2291.
Order from OTS or SLA $1.10 63-23226

Trans. of Maslob[oino] Zhir[ovaya] Prom[yshlennost'] (USSR) 1962 [v. 28] no. 8, p. 33-34.

DESCRIPTORS: *Fats, *Oils, *Cetacea, *Hydrogenation, Processing.

Kochankov, G.
CONSERVACION FRIGORIFICA DE QUESOS (Opyt Khraneniya Syrov na Kholodil'nikakh) (Low Temperature Cheese Preservation). 14p. CID: 62-216.
Order from OTS, ETC or CID $0.80 62-29216

Trans. in Spanish of Kholodil'naya Tekhnika (USSR) 1958, v. 35, no. 5, p. 38-41.

DESCRIPTORS: *Frozen food, Storage, Preservation, *Cheese.

Kremers, Karl.
A PROCESS FOR OBTAINING HEAT COAGULATION PROPERTIES WITHOUT SYNERESIS IN MILK PROTEIN. [1963] [5]p.
Order from OTS or SLA $1.10 63-16333

Trans. of German patent 848,900, by Dr. Kremers, Inc., pat. 15 Sep 49, pub. 10 July 52.

DESCRIPTORS: *Coagulation, *Milk, Proteins, Food, Processing.

A process for obtaining heat coagulation properties without syneresis in milk protein and milk protein products is described. The milk or the milk protein is treated with salts of organic acids, preferably monocarboxylic acid and hydro-mono-carboxylic acids of the aliphatic row, the cation of which can be an element of the second row of the periodic system, or ammonium. The milk or milk protein is subjected to the effect of calcium lactate. The substances to be applied jointly are first mixed in dry condition and are then dissolved in water. The milk protein or milk protein product, which can be heat coagulated without syneresis is dried, preferably with a spraying process and under observance of temperatures at which heat coagulation without syneresis does not occur.

Rehm, H.-J[ürgen].
THE INFLUENCE OF CHEMICAL COMPOUNDS ON THE ANTIMICROBIAL ACTION OF PRESERVATIVES. PT. I. INFLUENCE OF VARIOUS GROUPS OF SUBSTANCES ON THE ACTION OF PRESERVATIVES AGAINST ASPERGILLUS NIGER. [1963] 18p. 34 refs.
Order from SLA $1.60 63-18041

Trans. of Z[eitschrift für] Lebensmittel-Untersuchung und -Forschung (West Germany) 1963, v. 118, no. 6, p. 508-522.

DESCRIPTORS: *Preservation, Food, Fungi, *Phycomycetes, Sodium compounds, *Chlorides, *Calcium compounds, Benzoic acids, Sorbic acid, Formates, Esters, Ethyl radicals, Amino acids, Fatty acids, Fats, Vitamins, *Organic acids, Alkali metal compounds, *Geomicides.

The influence of various chemical compounds which can occur in foods on the antimicrobial action of sorbic acid, benzoic acid, sodium formate and the ethyl ester of p-hydroxybenzoic acid was tested against Aspergillus niger. Calcium chloride was found a strong antagonist in combination with all preservatives. Sodium, potassium and magnesium chlorides were without substantial influence on the antimicrobial action of the preservatives tested in the concentrations investigated. Isobutyric acid, gluconic acid and cysteine hydrochloride had a to some extent strongly synergistic influence, malonic and maleic acids strongly antagonistic influences, on the antimicrobial action of preservatives against Aspergillus niger, while no influences could be established for four different sugars. Riboflavin phosphate and pyridoxine hydrochloride had antagonistic effects, to some extent-in the relatively high concentrations for vitamins tested. When pyridoxine hydrochloride, thiamine hydrochloride, or ascorbic acid were combined with the preservatives, without elimination of the pH changes that were produced by the vitamin substances, synergisms always appeared. (Author)

Rotsch, A.
ABOUT A NEW DOUGH LEAVENING METHOD. [1963] 8p. 3 refs.
Order from SLA $1.10 63-16478

Trans. of Brot und Gebäck (West Germany) 1954, v. 8, p. 114-115.

DESCRIPTORS: *Bakery products, *Fermentation, Bread, Hydrogen peroxide, Food, Manufacturing methods.

Rybakova, Nu. S.
MICROSCOPIC INVESTIGATION OF THE EFFECT OF ROASTING ON THE CELL STRUCTURE OF NUTS. [1963] 1p. (figs. omitted) 2 refs.
Order from OTS or SLA $1.10 63-18052

Trans. of Khlebopekar[naya] i Konditer[skaya] Prom[yshlennost'] (USSR) 1958, v. 2, no. 6, p. 12-14.

DESCRIPTORS: *Food, Heating, *Cells (Biology), *Membranes (Biology).

Schneider, Ferdinand.
CONTROL AND EVALUATION OF THE LEACHING PROCESS. [1963] 6p. 2 refs.
Order from SLA $1.10 63-16367

Trans. of Zucker-Beihefte (West Germany) 1950, no. 1, p. 1-3.

DESCRIPTORS: Vegetables, *Carbohydrates, Water, Pressure, Diffusion, Polorization, Control, Separation, *Beets.

The extraction of sugar from sugar beets by means of a continuous mechanical process was studied. This process consisted of a combination of treatment with hot water with partial pressing, and subsequent diffusion. Calculation of the amounts of sugar and dry matter remaining after leaching in the various steps of the process, or of the amounts of sugar and dry matter dissolved out can theoretically be done by means of standard substance determinations. The standard substance content of pressed pulp is, however, subject to strong fluctuations. Therefore a calculation method was developed based on the polarization, the dry matter content, and the values for the corresponding juices. These data can be determined easily and with sufficient accuracy in sugar plant laboratories. As the determination methods included large possibilities of error, it was necessary to form the average of a series of measurements.

Tiselius, A. and Ingelman, B.
RESEARCH ON COLLOIDAL CHEMICAL JUICES IN UPSALA DURING 1941. Rept. [presented] at the Annual Meeting of the Association of Regents, Arloev, 1942. [1963] 22p.
Order from SLA $2.60 63-14604

Trans. of mono. Foerh. Svenska Suckerfabriksdirigenternas Foernen., Sammantraedens, n.p., 1942, II, 16p.

DESCRIPTORS: *Colloids, *Albumins, Liquids, Amino acids, Beets, Pectins, Electrophoresis, Nitrogen, Physical properties, Chemical analysis, Molecular weight.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

INSTALLATION OF BLOWER NOZZLES FOR DRYING PRODUCTS IN BAND FORM. [1963] 5p. (figs. omitted).
Order from OTS or SLA $1.10 63-18314

Trans. of French patent 1,149,169, gr. 5, cl. 5, internat. cl F 04 d -- D06 c, appl. 17 Jan 56, granted 8 July 57, pub. 20 Dec 57, by Vits-Elektro, Germany.

DESCRIPTORS: *Paper, *Films, *Driers (Apparatus), *Blowers, *Nozzles, Design.

The invention pertains to a device of blower nozzles for drying especially for machines for placing in width and drying, in which the band shaped merchandise, especially tissues, are dried. The invention makes possible a desired flexible guidance of the merchandise, for example with respect to its contraction and at the same time the obtaining of a maximum drying yield. (Author)

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 64. 2 Aug 63, 16p. JPRS: 20472.
Order from OTS $0.50 63-31440

Trans. of Mashinostroitel' (USSR) 1963, no. 5, p. 7, 11, 20, 23, 39, 42; Promyshlennost' Armenii (USSR) 1953 [v. 6] no. 3, insert; and 7 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: Industrial production, *Industrial equipment, *Machine tools, Silicon, Germanium, Cutting tools, Automatic, Gears, Grinders, Metals, Welding, Warehouses, Lathes, Diamonds, Electrolytic polishing, Cuba, Machines, Construction, Forge presses, Vibration, Fibers (Synthetic), Processing.

Contents:
New germanium and silicon cutting method
Automatic program preparation for automatic machine tools
The model 5A580 gear cutter
Automatic polishers for atomizer needles
A new gear polishing machine
Friction welding of metals
Plans for tool warehouses
Universal turning-profiling lathe
Smallest diamond tool
Polishing machines for Cuba

New products of the Chimkent automatic press plant, by V. Stupnikov
New models of presses
Curled chip removal by vibration, by A. Stroganov
Shortcomings of 5A830 gear polisher, by N. Bondarenko.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 65. 13 Aug 63, 4p. JPRS: 20612.
Order from OTS $0.50 63-31513

Trans. of 18 short articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, *Drilling machines, Automation, Grinders, Drawing (Machine processing), Drills, Machine tool industry, Bearings, Glass, *Professional personnel.

Contents:
New products, equipment and facilities in the metalworking industry
Personnel in the metalworking industry.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 66. 13 Aug 63, 22p. JPRS: 20633.
Order from OTS $0.75 63-31524

Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 5, p. 19-24; Nauchno-Tekhnicheskie Obshchestva SSSR, 1963 [v. 5, no. 6] p. 56; #Stanki i Instrument (USSR) 1963 [v. 34] no. 6, p. 1-2; and from Ekonomicheskaya Gazeta (USSR) 1963, no. 27[100] p. 18, Leninskoe Znamya (USSR) 1963, 3 Jun, p. 2; Molod' Ukrainy (USSR) 1963, 4 Jun, p. 2; Sovetskaya Belorussiya (USSR) 1963, 4 Jul, p. 1-2.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Milling machines, *Commerce, Automotive industry, Automatic, Hammers, Metal plates, Pneumatic devices, Machining, Reamers, Forge presses, Cutting tools, Presses (Machinery)

Contents:
A new milling machine
Giant machine tools
The Kolomna heavy machine tool building plant builds for export
Automatic production lines from Vitebsk
Plate stamping pneumatic drop hammer, model ML1.5, by I. P. Frid and A. V. Greben'kov
Small unit-type, drum-type machine tools for machining shaft-type parts, by S. M. Zonnenberg
Semi-automatic machine tools, model MF 506, for boring holes, by A. V. Terent'ev
A modernized forging press
Development of tool making industry
Reserves in machine tool building industry
Novo-Kramatorsk plant produces 4,000-ton press.

USSR INDUSTRIAL DEVELOPMENT: SOVIET POWER MACHINERY NO. 18. 21 Aug 63, 6p. JPRS: 20741.
Order from OTS $0.50 63-31587

Trans. from Leninskoe Znamya (USSR) 1963, no. 138, 13 June, p. 2; Pravda Vostoka (USSR) 1963, 6 July, p. 4; Sovetskaya Latviya (Latvian SSR) 1963, 9 July, p. 1.

DESCRIPTORS: *Industrial production, *Power equipment, *Machines, Safety valves, Reliability, Pipelines, *Turbines.

Contents:
Defective power machinery, by V. Sazonov
Power equipment for the gas pipe line Bukhara-Ural
A new type power unit.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 85. 8 July 63, 7p. JPRS: 20067.
Order from OTS $0.50 63-31230

Trans. of Tekhniko Kino i Televideniya (USSR) 1963 [v. 7] no. 5, p. 42, 92-93, 95.

DESCRIPTORS: *Industrial production, *Precision equipment, *Television equipment, Recording systems, *Printing, Motion-picture film, Conferences, Cybernetics.

Contents:
Comparative tests of video tape recorders, by B. E. Abramov
Industrial introduction of the water-type printing method in film-copying
Reports on technical Conferences.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 98. 25 July 63, 10p. JPRS: 20338.
Order from OTS $0.50 63-31375

Trans. of Radio, Moscow (USSR) 1963, no. 3, p. 3-6.

DESCRIPTORS: *Industrial production, *Precision equipment, *Radio receivers, Sound reproduction systems, Women, Labor.

Contents:
Quality of radio receivers and radio-phonographs made by Riga radio plant imeni, by A. S. Popov
Discussion concerning poor-quality radio receivers, by V. Denisevich
Activity of young female personnel of the Riga "VEF" electrical equipment plant.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 99. 29 July 63, 18p. JPRS: 20371.
Order from OTS $0.50 63-31390

Trans. of 10 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Gears, *Gas detectors, Methanes, *Lighting equipment, Medical equipment, Exposure meters, Industrial plants, *Radio receivers, Sound reproduction systems, *Clocks, Heaters, Cleaning, Ultrasonic radiation, *Electric cables, Electrical equipment.

Contents:
Kiev Medoborudovanie plant to step up production of gears, by I. Kudin
"IM-3" methane detector, by A. Rusak
Invention of tiny bulb for medical photography
Measures to eliminate shortcomings in work of Gomel'kabel and Elektroapparatura plants
Measures to improve work of Polol'skkabel' plant, by I. Aleshin and I. Gofenshefer
Millionth "Latviya" radio-phonograph produced by VEF electrical equipment plant
Two new products: the "Minsk-62" radio receiver and the "Orbit" men's wristwatch
New high-frequency and ultra-sound equipment developed in Leningrad, by L. Ostapenko
All Russian Sovnarkhoz fails to supply ore-mining enterprises with sufficient power cable
Party-state control cooperation groups at Riga "VEF" electrical equipment plant, by A. Egle.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 100. 29 July 63, 12p.
JPRS: 20385.
Order from OTS $0.50 63-31401

Trans. of 11 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Computers, Industrial equipment, Commerce, Electrical equipment, *Radio receivers, Sound reproduction systems, *Spectrum analyzers, Industrial relations, *Clocks, Professional personnel, Flash lamps, Electric insulation.

Contents:
Kursk calculating machines fail to meet need, by V. Kozyrev
Industrial items for sale
L'vov radio electrical supply office offers
Riga radio plant celebrates landmark in production of radios and radio-phonographs
New UMB-1 beta-spectroscope built by Moscow Fizpribor plant
Severo-Kavkazskii sovnarkhoz supports innovators against Ordzhonikidze precision industrial stones plant management
"Made in USSR" watches withstand any treatment, by N. Avdeenko
Miscellaneous short items.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 103. 6 Aug 63, 18p.
JPRS: 20496.
Order from OTS $0.50 63-31452

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 2, p. 45-50; Promyshlennaya Energetika (USSR) 1963 [v. 18] no. 3, p. 47, 63.

DESCRIPTORS: *Industrial production, *Precision equipment, *Hygrometers, *Maintenance equipment, Internal combustion engines, Automotive industry, Electrical equipment, *Measuring devices (Electrical and Electronic), Acoustic equipment, Fluxmeters, Magnetometers, Ultraviolet radiation, Quality control, Test equipment.

Contents:
Instruments for measurement, recording, and control of moisture, by D. N. Oganesyan
A universal instrument for checking automotive electrical equipment, by A. S. Golubev
New instruments made by the Krasnodar electrical measuring-instruments plant
Specifications of industrial flaw-detectors in series production at the Kishinev "Elektrotochpribor" plant.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 105. 7 Aug 63, 44p.
JPRS: 20527.
Order from OTS $1.25 63-31472

Trans. of Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 2, p. 70, 72 and 26 selected articles from 1961 and 1963 issues of 12 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Clocks, Wood, *Containers, *Television receivers, *Computers, *Welding, Transformers, *Radio receivers, Polishes, Wide-field cameras, Loudspeakers, Lighting equipment, Fluorescence, Standardization, Food, Electrical equipment, *Magnets, Gas analysis, Meters, Measuring devices (Electrical and electronic), Molding, Personnel, Political science, Commerce.

Contents:
The Uglich watch plant starts making "Charodeyka" watches
Woodworking plant no. 3 makes cases for the "Rubin-102" and "Temp-6" television sets
Random process analysis computer developed by Lithuanian engineers
The "TSP-1" welding transformer and the "VKSM-1000" welding unit developed by the all-union scientific research institute of electric welding equipment
New AChF-3 astronomical clocks developed, by Viktor Shcherbakov
Workers of the VEF plant save radio housing finishing and polishing materials, by D. Lunev
New wide-format camera and the "Tayga-2" loudspeaker
The cost of organizing new products should be absorbed by special fund, by M. Agenosov
Plant makes green electric bulb in answer to private request
State committee for radio electronics outlines measures for raising quality of television sets
"Vesna" watch now also made for men
Excellent "Pobeda" watches made by first Moscow watch plant
Building of the Poltava gas-discharge lamp plant held up by the Khar'kov design institute
The "Minsk-T" radio receiver is poorly made, by I. Ozerova
Automatic food packing machines made in Lithuania

Prospecting aid devices made by Mitishchi instrument building plant
New strong permanent magnets made by Erevan semiconductor and electroceramics plant
"Instrument building" exhibit of technological monitoring devices, by B. Kolli
New fluorescent bulbs and meters made by Erevan plants
Model "253M" molding machines for sale by Chelyabinsk "Teplopribor" plant
Smolensk plants adopt advanced technological processes
Personnel wanted by Riga "Gidrometpribor" plant
Plant imeni Kozitskii massproduces the "Volna" television set
The Moscow Institute of Electronic Machine Building needs docents for the Vladimir affiliate
Measures to improve products of Erevan electric bulb plant
The Riga VEF plant workers nominate Khrushchev for supreme Soviet Latvian SSR
Watch stores violate sales rules
Television store violates sales rules.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 106. 7 Aug 63, 26p.
JPRS: 20531.
Order from OTS $0.75 63-31474

Trans. of 14 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Lighting equipment, *Isotopes, Radioactive sources, Automation, Computers, Microminiaturization (Electronics), Refrigeration systems, *Ultrasonic equipment, *Clocks, Commerce, Meters, *Spectrum analyzers, *Radio receivers, *Magnetometers, Instrument panels.

Contents:
The Erevan electric bulb plant strives to fulfill 103.5% of the plan, by A. Panchyan
The Tashkent interrepublic "Isotop" office supplies isotopes and radioactive devices, by N. Nazarov
Problems of automation of production using computer technique, by L. Andronov
Device for continuous resistance measurement of microconductors at the "Mikroprovod" plant, by P. Lisenkin
Mechanization at the Baku refrigerator plant
The "URD-58" ultrasonic defectoscope for finding flaws in rails, by M. Kuleshov
Erevan watch plant exports excellent watches
Plant imeni Likhachev to start production of modernized "KKh-2-240" refrigerators
The "Pribordetal'" plant makes automatic measuring hoppers
Minsk watch plant makes the "Zarya" and plans to make the "Vymperl" and the "Luch" watches, by L. Lozyuk
The UMB-1 spectrometer made by the Moscow "Fizpribor" plant
The "Lastochka" portable radio made by the Dnepropetrovsk radio plant
The "VMS-2" magnetic meter made by the Kiev geophysical instrument building plant
Miscellany.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 109. 9 Aug 63, 18p.
JPRS: 20566.
Order from OTS $0.50 63-31486

Trans. from Ekonomicheskaya Gazeta (USSR) 1963, no. 21 [94] p. 33-35, 48.

DESCRIPTORS: *Industrial production, *Precision equipment, *Computers, *Maintenance, Optical glass, Meters, Blower.

Contents:
Analysis of shortcomings in the production and use of various types of computers, by V. Pronin
Difficulties in obtaining repairs for computers
The New Year's tree glass ornament and optics plant offering to sell and purchase several items.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 112. 14 Aug 63, 28p.
JPRS: 20647.
Order from OTS $1.00 63-31535

Trans. of Shakhtnoe Stroitel'stvo (USSR) 1963 [v. 7, no. 5] p. 33 and 17 selected articles from 1963 issues of 14 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Clocks, *Miniature electronic equipment, *Ultrasonic radiation, *Maintenance, Electric motors, *Television receivers, *Personnel management, *Radio receivers, *Mercury arc rectifiers, Locomotives, *Storage batteries, *Lighting equipment, *Spectrum analyzers, *Telephone equipment.

Contents:
Tadzhikkabel' plant performance, by M. Mansurov
New extra flat watch "Rekord" produced by the Petrodvorets plant, by V. Komarov
Miscellaneous brief items concerning equipment
Miniature electronic equipment produced by Leningrad workers
Some research on ultrasonics, by V. F. Nozdrev and V. I. Obraztsov
Irresponsible repair work at the L'vov TV plant, by Ya. Zhukovskii
Red tape permits faulty electrical equipment in mines, by A. Orlov
New "Voronezh-6" TV set to become standard set, by V. Segalov
Engineers and technicians urgently wanted at Pabrade cable plant
"Selga" radio receiver set developed by Riga radio plant
Traction type mercury rectifier produced by mercury rectifier plant imeni M. I. Kalinin
Exorbitantly priced battery manufactured by Yelets cell plant, by P. Smirnykh
Faulty miner's lamps produced by "Svet Shakhtera" plant, by I. Panin and others
Faulty batteries produced by Verkhnii Ufalei Uralelement plant
Production of faulty "Smena" batteries discontinued by V. U. Uralelement plant
First high-precision automatic spectropolarimeter

developed by All-Union Scientific Research and Experimental Design Institute of Food Industry Machinery
Development of Sevan plant, by V. Paronikyan
A mine telephone set.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 113. 16 Aug 63, 30p.
JPRS: 20674.
Order from OTS $1.00 63-31546

Trans. of 7 selected articles from 1963 issues of 6 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, Electrical equipment, *Personnel management, *Radio receivers, Glass, *Telephone equipment, Reliability, Mantenance, Logistics, Television receivers, *Electronic equipment, Semiconductor devices.

Contents:
Mismanagement at the Cheboksary electrical actuating mechanisms plant
Pocket radio receivers are produced in Ul'yanovsk
Expedite the modernization of the Klin glass plant, by V. Romanyuk and others
Ideological work at the Estonian Eesti Kabel' cable plant, by D. Severov
Increase the reliability and durability of Latvian telephone equipment and instruments, by L. Lubotskii
The supply of television-set components in Armenia, by Z. Oganesyan
Produce electronic instruments of high quality in Leningrad.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 114. 19 Aug 63, 8p.
JPRS: 20693; NASA N63-19913.
Order from OTS $0.50 63-31561

Trans. of Promyshlennaya Energetika (USSR) 1963 [v. 18] no. 6, p. 63-64.

DESCRIPTORS: *Industrial production, *Precision equipment, *Television communication systems, Industrial equipment, Television equipment, Automatic, Control systems, Manometers, Dynamometers, Thermometers, Thermocouples, *Hydraulic servomechanisms.

Contents:
Industrial television equipment produced in 1963
"Kristall" electronic-hydraulic system of automatic control.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 115. 19 Aug 63, 10p.
JPRS: 20700.
Order from OTS $0.50 63-31565

Trans. of Radio, Moscow (USSR) 1963, no. 6, p. 13, 35-38.

DESCRIPTORS: *Industrial production, *Precision equipment, *Test equipment, Welds, Television receivers, Specifications.

Contents:
Organization of series production of new "MD-11" flaw detector at Moscow "Kontrol'pribor" experimental plant
"Start-3" television set, by L. Troitskii.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 116. 20 Aug 63, 17p.
JPRS: 20722.
Order from OTS $0.50 63-31576

Trans. of Tekhnika Kino i Televideniya (USSR) 1963 [v. 7] no. 6, p. 66-67, 74-76, 94-95.

DESCRIPTORS: *Industrial production, *Precision equipment, Television communication systems, *Television equipment, *Motion-picture projectors, Conferences.

Contents:
Soviet television still lags after 25 years, by I. P. Zakharov
The "[illegible]ch-2" motion-picture projector for 8-mm films, by [illegible] D. Korovkin
All-Union Scientific and Technical Conference held to discuss intercity TV transmission, by A. Ya.

Daum, W.
THE RELATIONS BETWEEN THE MOST IMPORTANT DIMENSIONS OF THE BORE OF A DIE, THEIR MATHEMATICAL FORMULATION AND APPLICATION (Die Beziehungen Zwischen den Wichtigsten Bohrungsgrossen eines Ziehsteines, deren Mathematische Formulierung und Anwendung). [1963] [28]p. (foreign text included) 4 refs.
Order from SLA $2.60 63-18351

Trans. of Draht (West Germany) 1962, v. 13, no. 10, p. 571-577.

DESCRIPTORS: *Dies, *Design, Drawing (Machine processing), Mathematical analysis.

The relations between the individual characteristic bore dimensions of a die were derived, in general form, and two special cases discussed in which a die is bored from an initial diameter d_1 to an arbitrary final diameter d'_1; these are cases that appear important in practice. Conditions here imposed on the new bore dimensions produced by boring, these conditions allowing, in one case, a change, and, in the other case, no change in the initial bore characteristics. It is further demonstrated that for the four types of boring discussed, very simple steps can be laid down, and can be performed almost without calculation by using constants introduced in the paper and summarized in Tables. (Author)

Flügel, Heinrich.
PNEUMATIC MILLING SYSTEM. [1963] [6]p.
Order from OTS or SLA $1.10 63-14797

Trans. of German patent 943,207, cl. 50 c, gr. 17 10, issued 17 May 56, by Buettner-Werke A. G., addition to patent 938,762 issued 26 Apr 56.

DESCRIPTORS: *Pneumatic systems, *Milling machines.

Khoruzhii, V. A.
A METHOD OF DIE-FORGING UNDER PRESSURE. 27 May 63 [4]p. FTD-TT-63-567. AD-409 945
Order from OTS or SLA $1.10 63-23618

Unedited rough draft trans. of Russian patent 150,085, 721,979/25, 25 Mar 61.

DESCRIPTORS: *Forge presses, *Dies, Hydraulic pressure pumps, Welding, Forging.

The method of die-forging by the pressure of liquid transferred to the surface of sheet billets which have been inserted in a stamp, is distinguished by its goal of securing reliable sealing; whereby two billets, welded together along the edges, are simultaneously subjected to the stamp and a supply of liquid under pressure is injected between the given billets.

Klimanov, A.
FINISH PLANING IN PLACE OF SCRAPING [AND] NEW METALWORKING EQUIPMENT. USSR Industrial Development: Soviet Metalworking Equipment no. 63. 29 July 63, 5p. JPRS: 20382.
Order from OTS $0.50 63-31398

Trans. of Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 4, p. 50-51, 65-74.

DESCRIPTORS: *Machine tools, Machines, Small tools, Machining, Cutting tools, Grinding wheels, Gears, Industrial equipment.

Loskutov, V. I.
THE CONTROLLING MATHEMATICAL MACHINE "STAL' 1" FOR LAYING OUT WITHOUT WASTE. 26 July 63, 9p.
Order from OTS $0.50 63-31378

Trans. of #Stal' (USSR) 1963 [v. 23] no. 6, p. 533-536.

DESCRIPTORS: *Digital computers, *Control systems, Machine tools, Machining, Metals, *Cutting tools, Automatic, Control.

Lueg, Werner.
INSPECTION AND TESTING OF THE WORKING FACES OF HOLLOW TOOLS, ESPECIALLY REDUCING DIES FOR THE PRODUCTION OF SCREWS AND CEMENTED CARBIDE DRAWING BORES. [1962] 12p. (figs. refs. omitted).
Order from SLA $1.60 62-18438

Trans. of Stahl und Eisen (West Germany) 1953, v. 73 [no. 10] p. 621-629 (Max Planck Institut [für Eisenforschung (West Germany). Communication]-572; [Verein Deutscher Eisenhüttenleute (West Germany). Berichte]-54).

DESCRIPTORS: *Dies, *Screws, Wire, *Small tools, *Machine tools, Positioning devices (Machinery), Drawing (Machine processing), Material forming, Carbide tools.

Mel'nikov, S. V.
GRINDING OF GRAIN IN HAMMER MILLS (Izmel'chenie Zerna na Molotkovykh Drobilkakh). Apr 63 [11]p. 3 refs. RTS-2247.
Order from OTS or SLA $1.60 63-19141

Trans. of Mekhanizatsiya i Elektrifikatsiya Sots[ialisticheskogo] Sel'sk[ogo] Khoz[yaistva] (USSR) 1957, no. 1, p. 24-28.

DESCRIPTORS: *Cereals, *Grinders, *Milling machines, Hammers, Industrial equipment, Deformation, Elasticity, Mechanical properties, *Machines.

Milich, M. B.
INCREASING THE RELIABILITY AND MOISTURE RESISTANCE OF THE INSULATION ON HAND-HELD ELECTRIC DRILLS. [1963] 5p. NCB. Trans. A. 2018/JG; [DSIR] NLL M. 3907.
Order from OTS or SLA $1.10 63-19936

Trans. of Ugol' Ukrainy (USSR) 1959 [v. 3] no. 9, p. 33-36.

DESCRIPTORS: *Drills, *Electrical equipment, *Electric insulation, Effectiveness, Reliability, Moistureproofing, Quality control.

Nötzold, Erich.
HONEYCOMB FLOTATION CELL. [1963] [9]p.
Order from OTS or SLA $1.10 63-14532

Trans. of German patent 807,262, cl. 1c, gr. 4, N 572 VIb/1c, issued 28 June 51, pat. from 2 Mar 50, granted 19 Apr 51.

DESCRIPTORS: *Flotation (Separation), *Machines, Design, Construction, Operation.

The invention involves flotation cell, especially for the flotation of coarse grain, characterized by the fact that the cell has a hexagonal form. The cell corners are formed as tubular columns which are formed as admission-and withdrawal parts for the flotation sludge and the flotation products. (Author)

Onozaki, Seishi.
ROCK DRILL. July 63, 2p.
Order from SA $16.00 SA Code-P-226

Trans. of Japanese patent 188,695, published pat. 1301/1951, cl. 9-B-111, appl. 6165/1949 filed 24 June 49, pub. 12 Mar 51.

DESCRIPTORS: *Drilling machines, *Pneumatic devices, Design, Rock (Geology).

Prokopovich, A. E.
MACHINE-TOOL CONSTRUCTION IN THE U.S.S.R. (1959-65) tr. by David Carmel. 1963, 92p.
PL-480 Comm.
Order from OTS $1.00 63-11000

Trans. of mono. Stankostroenie v 1959-65 GG., Moscow, 1959 [153p.].

DESCRIPTORS: *Machine tools, Machine tool industry, Industrial production, Automation.

The book deals with the present [1959] state of Soviet machine-tool construction and the prospects of its development in the seven-year period (1959-1965). Particular attention is paid to problems of machine-tool automation as well as of automation of complete production cycles. It contains tables and figures, numerous illustrations of recent types of machine tools and automated production lines, characterizing the engineering progress of Soviet machine building and comparing it with the development of machine-tool construction in foreign countries.

Volkova, N. V. and Ryss, A. G.
ANALYSIS OF METHODS OF ASSESSING THE LONG-TIME STRENGTH OF METALS OPERATING UNDER CONDITIONS OF STRESS RELAXATION WITH PERIODIC RELOADING [AND] INCREASING THE TESTING CAPACITY OF MACHINES FOR STRESS-RUPTURE TESTING. Mar 62 [11]p. (figs. tables formulae omitted) 5 refs. [DSIR] NLL M. 3768.
Order from OTS or SLA $1.60 63-19789

Trans. of #Zavod[skaya] Lab[oratoriya] (USSR) 1961, v. 27, no. 11, p. 1380-1384; 1962, v. 28, no. 1, p. 112.

DESCRIPTORS: Test methods, Rupture, Stresses, *Machines, Loading, Relaxation time, *Metals, Operation, *Mechanical properties.

A critical analysis is made of several existing methods of assessing the long-time strength of metals operating under conditions of periodic stress decrease. A new procedure is proposed, which defines more accurately the linear relationship between the exhaustion of the strength reserve of metals and time in prolonged tests. (Author)

Engines and Propulsion Systems

COMBUSTION AND CARBURETION IN DIESEL ENGINES: SELECTED ARTICLES. 21 Mar 63 [53]p. 20 refs. FTD-TT-63-31.
Order from OTS or SLA $5.60 63-19404

Unedited rough draft trans. of mono. Sgoranie i Smeseobrazovanie v Dizelyakh Trudy Nauchno-Tekhnicheskoi Konferentsii, Provedennoi v Iyune 1958 G., Moscow, 1960, p. 156-171.

DESCRIPTORS: *Diesel engines, *Carburetors, *Combustion, Engine air systems components, Engine fuel systems components, Combustion chambers, Ignition.

Contents:
An investigation of the ignition of homogeneous fuel-air mixtures by compression and by a hot surface, by A. N. Voinov
An investigation of carburetion in engines with divided turbulent combustion chambers, by M. S. Khovakh.

THE ENGINE WITH A ROTARY PISTON: ITS HISTORY, ITS CHARACTERISTICS, ITS FUNDAMENTALS. [1963] 14p. (figs. omitted).
Order from SLA $1.60 63-18006

Trans. of Automobile (France) 1962, no. 198, p. 75-81.

DESCRIPTORS: *Internal combustion engines, *Pistons, Rotation, Industrial research.

MOVING-VANE OPERATIONS DEVICE FOR MOVING VANE TURBINE. 26 June 63, 9p. 19401/61 Japan.
Order from INT $25.50

Trans. of Japanese patent 19401/61 by Mitsubishi Zoosen Co. Ltd., filed 18 Apr 59.

DESCRIPTORS: *Turbines, Operation, *Turbine blades.

Chichikalyuk, A. V. and Kane, A. B.
THE DETERMINATION OF SOURCES OF VIBRATION AND NOISE IN A PUMP [AND] NOZZLE-TYPE SILENCER FOR LESSENING THE LOW-FREQUENCY INTAKE NOISE OF ENGINES D AND DR 30/50. [1963] [7]p. 2 refs. [DSIR] NLL M. 10085.
Order from OTS or SLA $1.10 63-23360

Trans. of #Vestnik Mashinostroeniya (USSR) 1962 [v. 42] no. 9, p. 34-36, 53-54.

DESCRIPTORS: *Pumps, *Reduction gears, *Electric motor noise, Oscillation, *Vibration, *Noise, Determination, *Diesel engines, *Engine noise, Inhibition, *Engine mufflers, *Nozzles, Design.

Dinerman, A. P. and Getsov, L. B.
STRENGTH OF GAS TURBINE DISCS IN VARYING OPERATING CONDITIONS. [1963] [14]p. 4 refs. [DSIR] NLL M 3965.
Order from OTS or SLA $1.60 63-19864

Trans. of Teploenergetika (USSR) 1962 [v. 9] no. 5, p. 38-43.
An unedited rough draft trans. is available from OTS or SLA $1.60 as 63-19504, FTD-TT-62-1798, 29 Jan 63 [15]p.

DESCRIPTORS: Gas turbines, *Turbine parts, *Metal plates, Mechanical properties, Fracture (Mechanics), Turbines, Starting, Operation, Gas turbine rotors.

The paper deals with the efficiency of gas turbine discs with stress raisers at the rim in conditions of repeated rapid starts. Causes and nature of breakdown of discs are examined. It is shown that the number of starts leading to the fracture of a disc cannot be calculated by Coffin's method. (Author)

Fridman, V. N., Budnikova, T. V., and Zagorodnaya, G. A.
TORSIONAL VIBRATIONS OF THE SHAFT OF A TURBOGENERATOR DURING A SUDDEN HOT CIRCUIT (Krutil'nye Kolebaniya Vala Turboa[illegible]gata pri Vnezapnom korotkom Zamykanii). 1 Feb 63 [12]p. (foreign text included) 2 refs. Trafford Park trans. no. 3036; [DSIR] NLL M. 3806.
Order from OTS or SLA $1.60 63-19757

Trans. of Vestnik Elektroprom[yshlennosti] (USSR) 1961, v. 32, no. 2, p. 14-17.

DESCRIPTORS: Circuits, *Generators, *Turbines, Shafts, Vibration, Differential equations, Integral equations, Torque, Turbine stators, Stresses, *Ship turbines.

Topics include: The differential equation of the torsional vibrations of the shaft; integral equation for the amplitude of the torque; the moment twisting the shaft during a short circuit; and data for calculating the torsional vibrations of a PSVK-300 and a TVV-300-2 turbogenerator.

Galitskii, N. F.
INVESTIGATION OF THE LOSSES DUE TO FRICTION AND VENTILATION EFFECT IN A GAS TURBINE ROTOR DRUM (Issledovanie Poter' Treniya i Ventilyatsii v Radial'nom Turbinnom Ventse). July 63 [13]p. 3 refs. RTS 2299.
Order from OTS or SLA $1.60 63-23225

Trans. of Korablestroit[el'nyi] In[stitut. Trudy] (USSR) 1961, v. 33, p. 57-63.

DESCRIPTORS: *Gas turbines, *Gas turbine rotors, *Gas turbine blades, Rotation, Velocity, Ventilation, Friction, Turbine parts.

The losses in power due to friction and ventilation in a radial blade rotor drum of a turbine are directly proportional to the effective length of the blades and to the cube of the number of revolutions, or the peripheral velocity. The losses in power due to friction and ventilation in a radial blade rotor drum when operating in reverse (edges of the blades moving forward) are 9 to 10 times greater than the similar losses obtained when rotation is in the forward direction (convex profiles of the blades forward). The most important loss of power occurring in a radial blade rotor drum when running light is that due to the ventilation effect of the medium through the inter-blade spaces, which is from 7 to 8 times greater than the losses due to friction at the edges of the blades. The most fruitful course of action to take for reducing the power losses due to the running in reverse, when light, of a radial blade rotor drum would be to find some means, in the constructive design, of effectively reducing the ventilation losses of the medium. (Author)

Hosek, Josef.
CZECHOSLOVAK IDEAS ON AEROSPACE PROPULSION. 12 July 62 [13]p. AID Rept. 62-104; AD-281 817.
Order from OTS or SLA $1.60 63-23137

Review trans. of mono. Novinky v Letectvi. Rakety a Astronautike (Innovations in Aviation; Rockets and Astronautics) Prague, 1960, 48p.

DESCRIPTORS: *Rocket propulsion, Rocket motors (Solid propellant), Rocket motors (Liquid propellant), Rocket motor nozzles, Combustion chambers, Solid rocket propellants, Atomic structure, *Nuclear propulsion, Thermonuclear reactions, *Plasma engines, *Ion engines, *Solar rockets.

Annotated drawings are presented from a popular booklet which describes Czechoslovak aerospace propulsion ideas. The scope of the book is illustrated by reproduced drawings. The following two ideas are of special interest: (1) Metastable atoms have a large energy excess compared to stable atoms. This excess energy might be used to drive rockets. Metastable fuels can be stored under stable conditions at extremely low temperatures. (2) Solar radiation dissociates and ionizes the individual gases that make up the high strata of the atmosphere into free radicals and ions. When these revert to the initial states, they liberate large amounts of energy. The accumulated energy of free radicals and ions might be used in aircraft propulsion at high altitudes. Such a drive might consist of a ramjet engine with an electrically charged catalyzer-screen set designed to utilize the recombination of oxygen and other types of ions, converting the energy thus liberated into thrust. Output of such an engine would depend on the composition of the upper atmosphere, the aerodynamic engine cycle, and the chemical kinetics of ion recombination. (Author)

Kolodtsev, Kh. I., Babii, V. I., and Kustovskii, S. P.
VTI GAS GENERATOR FOR GAS TURBINE INSTALLATIONS. [1963] [10]p. 3 refs. NCB Trans. A. 2007/SEH; [DSIR] NLL M. 3977.
Order from OTS or SLA $1.10 63-19853

Trans. of Teploenergetika (USSR) 1961 [v. 8] no. 4, p. 44-48.
Other translations are available from OTS or SLA $1.10 as 62-25121, BM Trans-1662 [1962] [10]p. and as 62-25921, CE Trans-2364, DSIR NLL M. 6010 [1962].

DESCRIPTORS: *Gas turbines, *Gas generator engines, Heating plants, *Fuels, Solids, *Solidified gases, Gas generating systems.

For abstract see Technical Translations 9: 284, 1963.

Krikunchik, A. B.
THE RATED AND MAXIMUM CONTINUOUS CAPACITY OF STEAM TURBINES AND THEIR GENERATORS (Nominal'naya i Dlitel'naya Maksimal'naya Moshchnost' Parovykh Turbin i Generatorov k Nim). 22 Jan 62 [12]p. 9 refs. Trafford Park trans. no. 3097; [DSIR] NLL M. 3800.
Order from OTS or SLA $1.60 63-19762

Trans. of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 9, p. 21-25.

DESCRIPTORS: *Steam turbines, *Generators, Standards, Load distribution, Design, Operation.

Topics include: the position regarding the load-carrying capacity of modern turbines and generators; foreign experience in using the load-carrying capacity of turbogenerators; and, suggestions for the revision of existing standards.

Rabinovich, N. M.
ROTOR END-BELLS IN ALUMINUM ALLOYS. [1962] [7]p. [DSIR] NLL M. 3319.
Order from OTS or SLA $1.10 62-24661

Trans. of Elek[tricheskie] Stantsii (USSR) 1959 [v. 30] no. 7, p. 49-52.

DESCRIPTORS: *Aluminum alloys, *Rotor blades (Turbomachinery), Turbines, *Turbine parts, Mechanical properties.

Sakhnovskii, N. L.
DETERMINING THE SUPER-TRANSIENT INDUCTIVE REACTANCES OF TURBO-GENERATORS (Opredelenie Sverkhperekhodnykh Induktivnykh Soprotivlenii Turbogeneratorov). 26 Feb 62 [4]p. (foreign text included) 5 refs. Trafford Park trans. no. 3048; [DSIR] NLL NLL M. 3803.
Order from OTS or SLA $1.10 63-19759

Trans. of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 6, p. 84-85.

DESCRIPTORS: *Generators, *Turbines, Turbine stators, *Transients, Determination, Impellers, Electric potential, Resistance (Electrical), Inductance.

Comparative measurements of the super-transient inductive reactances of turbo-generators with star and delta connections of the phases of the stator winding. (A. E. I. abstract)

Shurygin, A. P.
OPERATING EXPERIENCE WITH CAST-IRON CRANKSHAFTS. Mar 62 [7]p. 3 refs. [DSIR] NLL M. 3777.
Order from OTS or SLA $1.10 63-19781

Trans. of Avtomobil'naya Prom[yshlennost'] (USSR) 1961 [v. 27] no. 7, p. 8-9.

DESCRIPTORS: *Iron alloys, *Castings, *Crankshafts, Operation.

Vorob'ev, V. F. and Stanislavskii, L. Ya.
INVESTIGATIONS OF THE TEMPERATURE RISE OF THE ACTIVE PARTS OF A TURBO-GENERATOR WITH DIRECT HYDROGEN COOLING OF THE COPPER WINDINGS (Issledovanie Nagreva Aktivnykh Chastei Turbogeneratora s Neposredstvennym Okhlazhdeniem Medi Vodorodom). 30 Apr 62 [25]p. (foreign text included). Trafford Park trans. no. 3092; [DSIR] NLL M. 3801.
Order from OTS or SLA $2.60 63-19761

Trans. of Vestnik Elektroprom[yshlennosti] (USSR) 1961 [v. 32] no. 7, p. 16-25.

DESCRIPTORS: *Turbines, Turbine parts, Temperature, *Coolants, Hydrogen, Coils, Armatures, Tests, Measurement, Generators.

Topics include: gas intake along the ducts in the active parts of the machine; investigations into the temperature rise of the active parts of the turbo-generator; temperature rise of the core and stator winding; and losses and efficiency of the turbo-generator

Machine Parts and Mechanisms

STATIC PRESSURE THRUST BEARING. 21 June 63, 3p. 15107/61 Japan.
Order from INT $21.00

Trans. of Japanese patent 15107/61 by Mitsubishi Denki Co. Ltd., filed 25 Dec 59.

DESCRIPTORS: Pressure, Pressure regulators, *Bearings, *Thrust bearings.

Vasil'ev, I. V.
INVESTIGATION OF NON-METALLIC MATERIALS FOR SLIDING BEARINGS SUITABLE FOR CERTAIN CONDITIONS OF FRICTION IN CHEMICAL MACHINE CONSTRUCTION. 28 May 63, 13p. 4 refs.
FTD-TT-63-260; AD-409 150.
Order from OTS $0.50 63-11664

Unedited rough draft trans. of mono. Plastmassy kak Antifriktsionnye materialy, Moscow, 1961, p. 86-95.

DESCRIPTORS: *Bearings, Materials, Steel, Iron, Bronze, Plastics, *Halocarbon plastics, *Graphite, Impregnation, *Phenol-formaldehyde resins, Tests, *Friction, *Corrosive liquids, Sodium compounds, Hydroxides, Sulfuric acid, *Chemical engineering.

Tests were performed on the durability of a number of materials, for possible use as sliding bearings, operating in a 1% NaOH solution and a 15% H_2SO_4 solution. In the alkaline medium, best results were had from a halocarbon plastic (Fluoroplast-4). Graphite impregnated with a phenol-formaldehyde resin was recommended for operation in the acid solution. It was pointed out that the reliability of operation of antifriction plastics under friction in aggressive media depends not only on their chemical stability but also on the corrosion resistance of the metals opposing them.

Manufacturing Equipment and Processes

Jungk, H. and Kratzer, J.
EXPERIENCES WITH A REDUCING MILL FOR HOT ROLLING WIRE. Aug 63.
Order from BISI £6 BISI-3315

Trans. of Stahl und Eisen (West Germany) 1962 [v. 82, no. 22] p. 1512-1520.

DESCRIPTORS: *Wire, Hot working, Rolling mills, Reduction, Costs.

Khlebnikov, V. P., Fradin, M. D., and Chekhovskii, P. A.
RATIONAL RAIL PASS DESIGN, tr. by R. C. Murray. Apr 58 [9]p. 4 refs. [BISI] Trans. 898; [Trans] no. 4776 [DSIR] NLL M. 3400.
Order from OTS or SLA $1.10 62-23967

Trans. of Stal' (USSR) 1957, v. 17 [no. 12] p. 1103-1107.

DESCRIPTORS: *Railroad tracks, *Steel, Design, Processing, Deformation.

A discussion is given of the thickness of the billets for rolling rails and the dimensions of the knife on the foot side of the embodying: (1) the expediency of using as templets thick billets for rail pass designing, without considerations of the first and second diamond pass profiles: (2) the use of unified billet dimensions; and (3) the use of high and sharp knives in the first diamond pass, which does not necessarily mean deep penetration by the knife or extensive steel deformation.

Shevakin, Yu. F. and Seidaliev, F. S.
SPECIAL FEATURES IN THE MANUFACTURE OF THIN WALLED TUBES ON COLD REDUCING MACHINES. Aug 63.
Order from BISI £3 15s BISI-3257

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962 [no. 11] p. 133-139.

DESCRIPTORS: Machines, *Rolling mills, Cold working, Reduction, *Pipes, Walls, Metals, Deformation, Manufacturing methods.

Tominaga, Tsunekichi.
A METHOD OF MAKING A TIRE. July 63, 8p.
Order from SA $16.00 SA Code-P-185

Trans. of Japanese patent 245,707, published pat. 3189/1958, cl. 25-F-3, appl. no. 13772/1956 filed 26 May 56, pub. 25 Apr 58, by Riken Gum Co., Ltd.

DESCRIPTORS: *Tires, Manufacturing methods, Laminates, Bonding.

Ulrich, E.
THE BASIS OF STRENGTH CALCULATIONS IN THE DESIGN OF BOILERS, PRESSURE VESSELS AND PIPELINES, TAKING INTO ACCOUNT PLASTIC DEFORMATION OF MATERIAL, PTS. I-II. Aug 63.
Order from BISI £10 BISI-3224

Trans. of Vereinigung der Grosskesselbesitzer. Mitteilungen (West Germany) 1962, no. 78, p. 190-198; no. 79, p. 245-261.

DESCRIPTORS: Deformation, Plasticity, Elasticity, *Boilers, *Pressure vessels, *Pipelines, Design.

Transport, Traction and Hoist Facilities

USSR INDUSTRIAL DEVELOPMENT: SOVIET AUTOMOTIVE INDUSTRY NO. 41. 9 Aug 63, 16p. JPRS: 20561.
Order from OTS $0.50 63-31483

Trans. of 10 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Automotive industry, Industrial plants, Maintenance, *Logistics, Electric wire, *Cargo vehicles, Diesel engines, Transportation, Towing vehicles, Bearings, Vehicles.

Contents:
German World War II artillery shell stockpile discovered
Shortage of automotive wiring at L'vov bus plant, by M. Yaroslavtsev and I. Bakal'chuk
Tests on the BelAZ-540 truck near completion, by I. Sidorovich
Engine production at Yaroslavl' plant
Criticism of the delivery of GAZ trucks, by L. Zheludev
The Frunze motor vehicle assembly plant
Caption to photograph of new prime mover
Investigation discloses a hoarding of bearings, by M. Pashin
Shortage of bearings, by Grinberg and others
Tests drive of GAZ-66 trucks.

Myasnikov, Z. M. and Korotkov, V. N.
IMPROVED PREPARATION PROCEDURES FOR GRAIN-CARRYING CARS. [1963] [5]p.
Order from OTS or SLA $1.10 63-16469

Trans. from Zheleznodorozhnyi Transport (USSR) 1962 [v. 44, no. 9] p. 87-89.

DESCRIPTORS: *Railroad cars, Cleaning, Cereals.

Petrunenkov, A. E.
ELECTRO-MECHANICAL CARRIER FOR TRANSFER OF DISPATCHER'S DOCUMENTS IN YARDS. [1963] [5]p.
Order from OTS or SLA $1.10 63-18076

Trans. of Zheleznodorozhnyi Transport (USSR) 1963 [v. 45, no. 3] p. 78-80.

DESCRIPTORS: *Conveyors, *Transportation, *Documentation, Railroads.

This surface mounted, completely enclosed, carrier system consists of the following basic elements: concrete tunnel; carrier-container; two receiving-dispatching stations; feeding and controlling equipment. (Author)

Rudoi, E. F. and Kuchko, A. P.
THE ELECTRIFICATION OF THE RAILWAYS IN 1962. [1963] 12p. [DSIR] NLL M. 3862.
Order from OTS or SLA $1.60 63-23413

Trans. of Elektricheskaya i Teplovoznaya Tyaga (USSR) 1962, v. 6, no. 1, p. 1-4.

DESCRIPTORS: *Railroads, Transportation, *Electricity, Locomotives, Electrical engineering.

Shakhmatov, G. A.
AUTOMATIC TRAIN STOPS FOR HIGH-SPEED TRAFFIC. [1963] [6]p.
Order from OTS or SLA $1.10 63-18062

Trans. of Zheleznodorozhnyi Transport (USSR) 1963 [v. 45, no. 1] p. 70-73.

DESCRIPTORS: *Signals, Automatic, Control systems, *Railroads, *Locomotives, Traffic, Electrical equipment.

Shteinfer, G. M.
A NEW WAY OF LOADING AND SECURING LUMBER. [1963] 4p.
Order from OTS or SLA $1.10 63-18080

Trans. of Zheleznodorozhnyi Transport (USSR) 1963 [v. 45, no. 1] p. 73-75.

DESCRIPTORS: *Wood, Handling, Railroad cars, Railroads.

Skvortsov, O. S.
INCREASING TRAIN SPEEDS IN THE PEAT INDUSTRY (Povyshenie Skorostei Dvizhneiya Poezdov na Transporte Torfyanoi Promyshlennosti). May 63 [12]p. RST-2221.
Order from OTS or SLA $1.60 63-23244

Trans. of Torf[yanaya] Prom[yshlennost'] (USSR) 1962 [v. 39] no. 5, p. 10-14.

DESCRIPTORS: *Railroad tracks, Railroads, Traffic, Velocity, Peat, *Transportation.

A discussion is given, based on theory and experiment, of problems connected with the reduction of limitations on train speeds over narrow-gauge lines according to track strength. Formulae are quoted for calculating permissible train speeds. (Author)

Smirnov, M. F.
CALCULATION OF THE ROAD COMPONENT IN THE COST OF TRANSPORTATION (Rashet Dorozhnoi Sostavlyayushchei Sebestoimosti Perevozok). July 63 [8]p. RTS-2274.
Order from OTS or SLA $1.10 63-23236

Trans. of Avtomobil'nye Dorogi (USSR) 1962 [v. 25] no. 4, p. 23-25.

DESCRIPTORS: *Roads, *Transportation, Costs, Construction, Maintenance, Cargo.

MATERIALS

INSTRUCTIONS ON THE PREPARATION OF "MPV" (OIL POLYISOBUTYLENE VASELINE) SEALING COMPOUND FOR HIGH VOLTAGE BUSHINGS. [1963] 5p. [DSIR] NLL M. 3865.
Order from OTS or SLA $1.10 63-19887

Trans. of Elektricheskie Stantsii (USSR) 1960, v. 31, no. 9, p. 91-93.

DESCRIPTORS: *Sealing compounds, *Oils, Polymers, *Butenes, Lubricants, *Bushings, Electric potential.

SYSTÈME DE PRÉVENTION DU FADING SÉLECTIF (Prevention of Selective Fading). 14 June 63, 5p. 1180/55 Japan.
Order from INT $15.00

Trans. in French of Japanese patent 1180/55 by Shoogo Namba., filed 12 June 36.

DESCRIPTORS: *Attenuation.

Badyl'kes, I.
NEW METHOD OF DETERMINING THE ENTHALPY AND ENTROPY OF REFRIGERANTS. [1963] 13p.
Order from ATS $11.50 ATS-03Q71R

Trans. of Kholodil'n[aya] Tekhn[ika] (USSR) 1959, v. 36, no. 6, p. 6-12.

DESCRIPTORS: *Refrigerants, Thermodynamics, *Enthalpy, *Entropy, Determination.

Blyumen, L. M.
ON THE SELECTION OF CLAYS FOR THE MANUFACTURE OF KERAMZITE GRAVEL (K Voprosu o Vybore Glin Dlya Proizvodstva Keramizitovogo Graviya) tr. by G. N. Gibson. Sep 61 [7]p. 4 refs. DSIR Library Communication no. 1084; NLL M.6290.
Order from OTS or SLA $1.10 62-25939

Trans. of Stroitel'nye Materialy (USSR) 1960, v. 6, no. 11, p. 32-34.

DESCRIPTORS: *Clay minerals, Manufacturing methods, Construction materials industry, Concrete, Brick.

Böhme, H. Th.
PROCESS OF FORMULATING PRODUCTS FOR FACILITATING CAPILLARY ACTION. [1963] 4p.
Order from OTS or SLA $1.10 63-18357

Trans. of French patent 753,189, appl. 27 Mar 33, pub. 9 Oct 33.

DESCRIPTORS: *Surface-active substances, Amines, *Ammonium compounds, Colloids, Electric discharges.

Edelman, L. I. and Smolinskii, D. S.
EFFECT OF SURFACE-ACTIVE SUBSTANCES ON THE INTENSITY OF VIBRO-GRINDING OF CEMENT. [1963] 6p. 14 refs.
Order from OTS or SLA $1.10 63-16981

Trans. of Akademiya Nauk SSSR. Doklady, 1957, v. 114, no. 4, p. 844-847.

DESCRIPTORS: *Surface-active substances, *Cements, Grinders, Vibration, Intensity, *Sulfates, *Naptha, *Oleic acids, Material forming.

Grob, K.
STATE OF DEVELOPMENT OF THE CIGARETTE CONDITIONER OF THE SCHILTKNECHT COMPANY, ZURICH. [1963] 1p. 1 ref.
Order from SLA $1.10 63-16665

Trans. of Beiträge zur Tabakforschung [sic] 1961, no. 4, p. 144.

DESCRIPTORS: *Cigarettes, Processing.

Klatt, H.
OPERATIONAL ADJUSTMENT OF DISC TYPE NODULIZERS. [1963] 26p. 4 refs.
Order from SLA $2.60 63-16130

Trans. of Zement-Kalk-Gips (West Germany) 1958, v. 11, no. 4, p. 144-154.
Also available from SLA as 58-2623, 26p.

DESCRIPTORS: Disks, *Pellets, Production, Surface tension, Rotary furnaces, Density, Porosity, Materials, *Cements, Material forming.

The formation of nodules, or pellets, in a dish type nodulizer is investigated and described in some detail. A physical and a mechanical process may be distinguished. By selecting a suitable adjustment of the nodulizing dish it is possible to produce nodules which are formed either mainly by the physical process (involving forces arising from surface tension) or mainly by the mechanical process (involving rolling movement of the nodules). Difficulties encountered with a cement shaft kiln equipped with dish type nodulizers led to an exhaustive investigation of the bursting of the nodules. On the basis of numerous tests it is shown that nodules having a bulk density of about 70% of the specific gravity of the feed material (corresponding to a degree of porosity of 30%) will burst when fired in a shaft kiln or on a travelling grate. The determination of the porosity is described in detail. The most favourable adjustment of the dish for producing small, medium-sized and large nodules is discussed with the aid of a number of diagrams. Throughput figures, speeds of rotation, motor capacities, and other important characteristic data for the design of dish type nodulizers, covering a range of ten different dish sizes are given in a table. For characterizing the different nodulizing properties of materials a "nodulizing factor" is introduced. This factor is indicated for ten different materials, thus permitting the choice of the correct dish diameter for any particular required output. (Author)

Komori, Saburo.
METHOD OF MANUFACTURING POLYOXYALKYLENE ADDITION COMPOUND OF SACCHAROSE LONG CHAIN FATTY ACID ESTERS. July 63, 6p.
Order from SA $16.00 SA Code-P-187

Trans. of published Japanese patent 23020/1961, cl. 16-B-61 (13-C-122) (19-F-2) appl. no. 33573/1958 filed 21 Nov 58, pub. 28 Nov 61.

DESCRIPTORS: *Surface-active substances, Manufacturing methods, *Complex compounds, *Epoxides, Alkenes, Oxides, *Ethylene oxide, *Fatty acid esters, Methyl radicals, *Saccharides.

Lukyanova, O. I., Segalova, E. E. and Rehbinder, P. A.
HEAT LIBERATION DURING THE INITIAL PERIOD OF HYDRATION OF A CEMENT WITH PLASTICIZING ADMIXTURES. [1963] 9p. 20 refs.
Order from OTS or SLA $1.10 63-18499

Trans. of #Kolloidnyi Zhurnal (USSR) 1957, v. 19, no. 4, p. 459-464.

DESCRIPTORS: Mixtures, Additives, *Heat, *Calcium compounds, *Aluminates, *Cements, Water, *Plasticizers, Binders, Concrete, Chemical reactions.

The kinetics of heat evolution in the initial period of interaction between Portland cement and water in the presence of the hydrophilic plasticizer (SSB) is examined as a sensitive quantitative characteristic of the hydration process of the binding material. The temperature change in the calorimeter was measured up to 0.01° using the thermistor set MMT -1. By studying the kinetics of heat evolution of gypsumless cement with SSB additions it was shown that the induction period of hydration (and formation of the spatial structure) characterized by a low rate of heat evolution grows with the amount of surface-active addition. An increase in t the initial evolution of heat as compared with cement suspensions without additions is observed over a wide range of quantities of the addition agent, which is explained by an intensification of the cement hydration (predominantly of the tricalcium aluminate hydration) in the presence of surface active additions. (Author)

Lukyanova, O. I., Segalova, E. E., and Rehbinder, P. A.
ON THE NATURE OF THE INDUCTION PERIOD IN THE HYDRATION OF PORTLAND CEMENT WITH ADMIXTURES OF HYDROPHILIC PLASTICIZER. [1963] 6p. 7 refs.
Order from OTS or SLA $1.10 63-18498

Trans. of Akademiya Nauk SSSR. Doklady 1957, v. 117, no. 6, p. 1034-1036.

DESCRIPTORS: *Plasticizers, Mixtures, *Sulfates, *Cements, Water, Calcium compounds, Aluminates, Density, *Concrete, Mechanical properties, Phase studies, Driers (Apparatus), Crystal structure.

A study of the rate of cement hydration in the presence of admixtures was carried out using colorimetric methods. The colorimeter used had a low and constant heat exchange. In a cement without admixtures hydration began at a high rate, without an induction period, and diminished gradually. An admixture of 0.5 per cent sulfite alcohol liquor (SSB) produced the appearance of an induction period, following which hydration proceeded more intensely than without SSB admixtures. An obvious part of the general plasticizing effect is the stabilizing action of adsorption layers of SSB lignosulfonates on the primary cement particles, which prevent formation of coagulation structures. These adsorption layers may retard the interaction of the original cement particles with the solution.

Muntzer, Emile.
ENVELOPING (COATING) PRODUCTS AND PROCESSES OF DIVIDED SUBSTANCES. [1963] 3p.
Order from OTS or SLA $1.10 63-18260

Trans. of French patent 1,002,732, gr. 14, cl. 8, appl. 12 Dec 49, granted 7 Nov 51, pub. 10 Mar 52.

DESCRIPTORS: *Emulsions, *Gels, Preparation, Particles, *Coatings, *Binders, *Adhesives, *Proteins.

The invention encompasses: (1) A tanned protein substance based product coming from various sources, placed in colloidal solution or in the form of a gel by any suitable process, for the purpose of assisting and rendering possible on the one hand, the placing in emulsion of substances, mainly those difficultly emulsifiable, and on the otherhand, the adhesive enveloping of aggregates of all kinds and in any state of division, wet or dry, hot or cold; (2) an adhesive enveloping process applied mainly on viable substances by means of binders mixed with most diverse aggregates, in the presence of the tanned hydrolyzed protein substance and of variable humidity, under heat or cold; (3) the activation of aggregates at the places of their production or their extraction or use, by mixing them with tanned hydrolyzed protein substances in a very diluted form for example, for the purpose of their linking or their later adhesive enveloping or at the end; And, (4) The adequate application of the properties of the tanned protein materials for resolving the problems of enveloping and of adhesive fastening as well as those of emulsification which are encountered in technology. (Author)

Nelson, Earl William, Bondurant, James Ellison and others.
METHOD OF PRODUCING TITANIUM DIOXIDE PIGMENT. July 63, 46p. (figs. omitted).
Order from SA $40.00 SA Code-P-218

Trans. in manuscript of published Japanese patent 11658/1962, cl. 15-F-261.2 (24-A-2) appl. no. 37996/1959 filed 8 Dec 59, pub. 21 Aug 62, by American Cyanamid Co., U. S. A.

DESCRIPTORS: *Pigments, Production, *Titanium compounds, Dioxides, Gases, Chlorides, Oxygen combustion, *Nucleation, *Crystal growth, *Combustion chambers, Pipes, Gas flow, Quenching (Cooling), Catalysts, Aluminum compounds, Flames, Chlorine, Carbon dioxide.

Nevolin, F. V. and others.
SURFACE ACTIVE PROPERTIES AND DETERGENT CAPACITY OF SODIUM SALT SOLUTIONS OF NORMAL AND BRANCHED-CHAIN FATTY ACIDS Poverkhnostnoaktivnye Svoistva i Moyushchaya Sposobnost' Rastvorov Natrievykh Solei Normal'nykh i Razvetvlennykh Zhirnykh Kislot). July 63 [11]p. 4 refs. RTS-2289.
Order from OTS or SLA $1.60 63-23227

Trans. of Maslob[oino]-Zhir[ovaya] Prom[yshlennost'] (USSR) 1962, v. 28, no. 7, p. 15-22.

DESCRIPTORS: *Fatty acids, *Soaps, *Sodium compounds, *Cleaning compounds, *Surface-active substances, Electrolytes, Molecular structure, Surface tension.

For an identical number of carbon atoms in the molecule, solutions of branched-chain fatty acids have a higher surface tension than those of normal fatty acids. The addition of basic electrolytes to soap solutions of branched-chain and of normal fatty acids causes an increase in surface tension whilst a neutral electrolyte

(Na_2SO_4) brings about the opposite effect. At high concentrations, soap solutions of branched-chain fatty acids have a greater detergent capacity compared with the normal fatty acids, with the exception of sodium myristate. The critical micelle concentration is lower for soap solutions of the branched-chain fatty acids than for those of corresponding normal fatty acids. Mixtures of normal (C_{16} and C_{18}) and corresponding branched-chain fatty acid salt solutions exhibit a weak enhancing effect. (Author)

Perepechkin, L. P., Filippenko, K. A., and Petrov, E. A.
DEVELOPMENT PROSPECTS IN THE PRODUCTION OF ACETATE FIBERS AND THEIR IMPORTANCE. [1963] 3p.
Order from ATS $4.50 ATS-34Q71R

Trans. of Khim[icheskie] Volokna (USSR) 1963, no. 1, p. 64-65.

DESCRIPTORS: *Fibers (Synthetic), *Acetates, Production.

Podval'nyi, A. M.
THE EFFECTS OF TEMPERATURE ON THE LONG-TERM PERFORMANCE OF PLASTIC CONCRETES (Vliyanie Temperaturnykh Vozdeistvii na Dolgovechnost' Plastbetonov). May 63 [15]p. RTS-2248.
Order from OTS or SLA $1.60 63-23255

Trans. of Beton i Zelezobeton (USSR) 1962 [v. 8] no. 7, p. 306-311.

DESCRIPTORS: *Concretes, *Plastics, Tests, Temperature.

As a result of the difference in the coefficients of thermal expansion of the resin and the aggregates, and incongruity of their deformations when wetted, considerable strains occur in plastic concrete under the effect of the external medium and these lower its strength and long-term performance. As a result of difference in the thermal diffusivities of the components of reinforced and unreinforced plastic concretes under unsteady temperature conditions stresses may appear which diminish the service qualities of structures made from plastic concrete. When corrosion-resistant plastic concrete structures are designed for working under variable heat conditions the low thermal stability (resistance to thermal cycling) of pure resin should be taken into consideration. When designing a plastic concrete composition for variable temperature conditions measures should be taken to reduce the differences between the thermal expansion coefficients of the components; one way being to introduce disperse fillers. When designing reinforced plastic concrete measures should be taken to reduce thermal stresses; in particular by using concrete as a heat shield for the reinforcement. (Author)

Smelyanskii, V. L. and Kalashnikova, V. M.
ELASTOPLASTIC PROPERTIES OF PLOYMER-CEMENT CONCRETE (Uprugo-Plasticheskie Svoistva Polimertsementnogo Betona). May 63 [8]p. RTS-2249.
Order from OTS or SLA $1.10 63-23253

Trans. of Beton i Zhelezobeton (USSR) 1962 [v.8] no. 7, p. 312-314.

DESCRIPTORS: *Concrete, *Cements, Polymers, Plasticity, Elasticity, Mechanical properties.

By changing the ratio of polymer and cement and selecting a suitable polymer a whole gamut of materials can be produced, from brittle concretes to resilient materials whose deformation properties approach those of cured rubber. Such fine-grained polymer-cement concretes with low elastic moduli can be widely used as constructional adhesives, various types of putty, and even as building materials resistant to impact and vibration effects. (Author)

Yung, V. N., Panteleev, A. S. and others.
CEMENTS WITH MICROFILLERS. [1963] 11p. 6 refs.
Order from OTS or SLA $1.60 63-18503

Trans. of Tsement (USSR) 1947, v. 13, no. 8, p. 3-7.

DESCRIPTORS: *Cements, *Fillers, Concrete, Reinforced concrete.

Zavgorodnii, N. S., Mchedlov-Petrosyan, O.P. and others.
DETERMINATION OF SLAG AND GYPSUM IN CEMENT BY THE THERMOGRAPHIC METHOD (Opredelenie Shlakov i Gipsa v Tsementakh Termograficheskim Metodom). May 63 [13]p. 3 refs. RTS-2264.
Order from OTS or SLA $1.60 63-23249

Trans. of Tsement (USSR) 1962 [v. 28] no. 2, p. 13-15.

DESCRIPTORS: *Cements, *Gypsum, *Slags, Oxidation, Dissociation, Instrumentation, Glass, Crystallization, Chemical analysis.

Using a compound method of examination it proved possible to determine the amount of slag and gypsum addition to cement, both by means of change-in-weight curves using an available instrument and by measuring the extent of the appropriate effects. Slag structure can be described by means of thermographic curves, whilst the chemical processes of oxidation and dissociation can be characterised by thermogravimetric data. The magnitude of the exothermic effect reflects the degree of crystallisation of slag glass on granulation and characterises its energy content and the sulphide oxidation process. (Author)

METHOD FOR MANUFACTURING ALUMINA AS MATERIAL FOR MANUFACTURING ARTIFICIAL PRECIOUS STONES. 20 June 63, 2229/51 Japan.
Order from INT $16.50

Trans. of Japanese patent 2229/51 by Nihon Carbide Kogyo Co., Ltd., filed 23 May 49.

DESCRIPTORS: *Aluminum compounds, *Oxides, *Synthetic stones.

METHOD FOR MANUFACTURING OF HARD-HEAT-PROOF PORCELAIN BY CRYSTALLIZING GLASS. 21 June 63, 9p. 14019/61 Japan.
Order from INT $27.00

Trans. of Japanese patent 14019/61 by Hitoshi Tashino of Murasakidake- Kamishibamotocho, filed 30 June 59.

DESCRIPTORS: *Ceramic materials, *Glass, Crystallization, *Heat resistant materials, Manufacturing methods.

Andreeva, E. P. and Segalova, E. E.
KINETICS OF STRUCTURE FORMATION IN SUSPENSIONS OF TRICALCIUM AND β-DICALCIUM SILICATES IN THE PRESENCE OF CALCIUM CHLORIDE. [1963] 4p. 4 refs.
Order from OTS or SLA $1.10 63-16979

Trans. of #Kollodnyi Zhurnal (USSR) 1960, v. 22, no. 4, p. 503-505.

DESCRIPTORS: *Cements, *Minerals, *Calcium compounds, *Silicates, *Colloids, Dynamics, Additives, Electrolytes, Chlorides.

A study was made of the structure formation in concentrated tricalcium and β-dicalcium silicate suspensions on being mixed with calcium chloride solutions. It was found that structure development is considerably faster in calcium chloride solutions of concentration $c \leq 3.2$ N than in water. The acceleration is not due to chemical interaction of calcium chloride with the silicate minerals but to acceleration of the hydration of anhydrous calcium silicates in the presence of the added electrolyte. (Author)

Förster, E. and Knacke, O.
THE DISSOLUTION OF REFRACTORY MATERIALS IN SLAGS. [1963]. [BGIRA] no. 568.
Order from BGIRA BGIRA-568

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1962, v. 33, no. 3, p. 141-143.
Another trans. is available from HB $5.80 as HB-5627, July 62, 2100 words.

DESCRIPTORS: *Refractory materials, *Dolomite, *Brick, Decomposition, *Slags, Dioxides, *Silicon compounds.

Kitaigorodskii, I. I. and Sentyurin, G. G.
[PROGRESS OF THE GLASS INDUSTRY]. [1961] [18]p. 5 refs.
Order from OTS or SLA $1.60 61-14467

Trans. of mono. Khimiya i Tekhnologiya Silikatov: Sbornik Trudov, n.p., 1957, p. 398-407.

DESCRIPTORS: *Glass, Surfaces, Chemical reactions, Structural properties, Chemical analysis, Reagents, Heat treatment, Solutions, Salts, Temperature, Annealing.

Contents:
Increasing the chemical resistance of surfaces of glass
Structural and chemical resistance of glass
The influence of various factors on the variation in the chemical resistance of glass
Determination of chemical resistance of glass
Treatment of surface of glass: theoretical premises. Significance of effective radius
Method of treatment of surfaces of glass with various reagents followed by thermal treatment
Treatment with solutions of salts
Treatment at the temperature of annealing.

Muda, Meitoku and Shimojo, Tetsuo.
METHOD OF INCREASING HEAT RESISTIBILITY OF SILICON CARBIDE. [1963] 3p.
Order from OTS or SLA $1.10 63-18315

Trans. of Japanese patent publication SHO 38-143, appl. SHO 35-41160 [cl.] 38-143 (63-143) appl. 13 Oct 60, pub. 16 Jan 63, by Hitachi Ltd.

DESCRIPTORS: *Refractory materials, *Silicon compounds, *Carbides, Powders, Processing, *Phosphoric acids, Phosphates.

The invention involves a method of increasing the heat resistibility of silicon carbide, which is characterized in that a powdered, granulated, or sintered silicon carbide is treated at low temperature with one or more than two of phosphoric acid, phosphate, phosphoric acid solution, and phosphate sulution; after the phosphoric acid and/or phosphate remaining on the surface of the powder particles or on the sintered surface is removed. the silicon carbide is either sintered or not sintered. (Author)

Oshida, Tadashi, Miwa, Hirohide and others.
METHOD OF MANUFACTURING SPONGY GLASS TUBE BODY. July 63 [7]p.
Order from SA $16.00 SA Code-P-172

Trans. of published Japanese patent 5188/1953, cl. 21-A-407 (21-A-42) appl. no. 3661/1951 filed 10 Mar 51, pub. 9 Oct 53, by Kobe Industry Co., Ltd.

DESCRIPTORS: *Glass, *Expanded glass, Manufacturing methods, Molding.

Shuster, R. L. and Polyakova, T. P.
THE PROBLEM OF THE PRESENCE OF DEVITRITE IN FOAM GLASS [AND] CONTENTS OF THE CRYSTALLINE PHASE IN FOAM GLASS IN RELATION TO CERTAIN FACTORS. 2 May 63 [14]p. 13 refs.
FTD-TT-63-275; AD-409 063.
Order from OTS or SLA $1.60 63-19669

Unedited rough draft trans. of Akademiya Nauk Kazakhskoi SSR, Alma-Ata. Institut Stroitel'stva i Stroimaterialov. Trudy, 1959, v. 2, p. 163-166, 179-182.

DESCRIPTORS: *Glass, Foams, Brittleness, *Crystallization, *Phase studies.

Yaromenok, A.
FROM THE UNKNOWN: THE USUAL. 21 May 63 [8]p. FTD-TT-63-271.
Order from OTS or SLA $1.10 63-23190

Unedited rough draft trans. from Pravda Ukrainy (USSR) 1962, 12 Jan, p. 3.

DESCRIPTORS: *Cermets, *Alloys, Ceramic materials, Powder metallurgy, Filters.

A non-technical discussion of cermets: their production and uses.

Fuels, Lubricants, and Hydraulic Fluids

NEATSFOOT OIL SUBSTITUTE. [1963] [1]p.
Order from OTS or SLA $1.10 63-16017

Abstract trans. of French patent 723,620 [12 Sep 31, by Deutsche Hydrierwerke A. G.].
A complete trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-14773 [1960] 2p.

DESCRIPTORS: *Lubricants, Melting, Substitutes.

Andreev, K. K. and Bakeev, A. P.
AU SUJET DE LA RELATION EXISTANT ENTRE LA VITESSE DE COMBUSTION DES POUDRES SANS FUMÉE ET LA PRESSION (The Dependence of the Burning Velocity of Smokeless Powders on the Pressure) 5p. 5 refs.
Order from OTS, ETC or CNRS $0.80 62-26505

Trans. in French of Akademiya Nauk SSSR. Doklady, 1945, v. 48, p. 567-570.

DESCRIPTORS: *Smokeless propellants, *Combustion, Velocity, Pressure, Nitroglycerin.

Bulicek, Jar.
PHENOLIC WASTE WATERS. [1963] 31p.
Order from ATS $29.75 ATS-54Q70C

Trans. of Paliva (Czechoslovakia) 1950, v. 30, no. 11, p. 308-319.

DESCRIPTORS: *Wastes (Industrial), *Phenols, Water.

Eremin, I. V.
THE PETROGRAPHIC CHARACTERISTICS OF COALS IN RELATION TO THEIR USE IN THE COKING INDUSTRY. [1963] 8p. 17 refs. NCB Trans. A. 1968/SEH; [DSIR] NLL M. 3898.
Order from OTS or SLA $1.10 63-19943

Trans. of [Akademiya Nauk SSSR]. Inst[itut] Goryuchikh Iskopaemykh. Trudy 1959, v. 8, p. 14-20.

DESCRIPTORS: *Coal, Coke, Physical properties, Chemical properties, Petrology.

Ivanov, V. M. and Smirnova, E. V.
EXPERIMENTAL RESEARCH ON THE EVAPORATION RATE OF A DROP OF LIQUID IN A STATIONARY HIGH-TEMPERATURE MEDIUM. 3 July 63 [24]p. 8 refs. FTD-TT-63-520.
Order from OTS or SLA $2.60 63-23646

Unedited rough draft trans. of A[kademiya] N[auk] SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1962, v. 19, p. 46-58.

DESCRIPTORS: Liquids, *Drops, *Evaporation, High temperature research, Heat transfer, *Aerosols, Fuels.

A method was developed for measuring the evaporation rate of a drop of liquid in a stationary medium by the constant diameter technique at high temperatures of the medium (to 860°). The evaporation rate of a drop of water 0.9-2.9 mm in diameter was measured with the temperatures of the medium 400-860° in a stationary medium in a cylinder with radiating walls. It was established that the evaporation rate of a drop of water at constant temperature was proportional to the radius of the drop to the 1.75 power. A rise in the chamber temperature was accompanied by a significant increase of the evaporation rate. The coefficient of heat transfer to the drop (for drops 0.9-2.9 mm in diameter) increased with an increase of the temperature of the medium. With a rise in temperature from 400 to 860° the heat transfer coefficient doubled.

Kantorovich, B. V. and Ivanov, V. M.
ON THE PROCESS OF COMBUSTION OF A FUEL FLOW TOGETHER WITH EVAPORATION OF WATER IN A COMMON REACTION VOLUME. 11 Feb 63 [18]p. FTD-TT-62-1469; AD-299 619.
Order from OTS or SLA $1.60 63-19088

Unedited rough draft trans. of mono. Ispol'zovanie Goryuchikh Gazov v Narodnom Khozyaistve, n. p., 1962, p. 22-31.

DESCRIPTORS: Combustion, *Combustion chamber gases, *Fuels, Water, Colloids, Vaporization, Exhaust gases, *Turbines, Power plants (Establishments), Heat transfer, Steam, Steam turbines, Gas turbines.

Steam-gas turbine installations are being developed for more powerful thermoelectric power plants. In the steam-gas cycle a mixture of the combustion products and steam is used as the working fluid. The mixture is obtained directly in the combustion chamber under high pressure during the combustion of the fuel and the simultaneous evaporation of water introduced into the chamber. The working fluid thus obtained (steam-gas) goes directly to the vanes of the steam-gas turbine. Experiments were conducted in a laboratory combustion chamber on the combustion of gas, various liquid fuels and with water-oil emulsions (water content 16-30%) preheated to the temperature range 40-100° at a pressure of up to 5 Kg/cm^2. Combustion was carried out with excess-air coefficients 0.9; 1.0; 1.05; 1.07; 1.1; 1.2 - 1.5. Samples were drawn periodically for gas analysis at a number of points during the course of the investigation. It was established that the combustion process was completed within the limits of the furnace portion of the chamber. Neither hydrogen nor carbon monoxide was observed in the analysis. The thermal stress in the combustion zone attained 25 million kcal/m^3. hr. compared with 60 million kcal/m^3. hr. for gaseous fuel in the same installation. Investigations of the aerodynamics of flows inside the chamber shows that reverse peripheral circulation flows with a reduced temperature are formed at the side walls of the chamber.

Katsnel'son, B. D.
COMBUSTION OF PULVERIZED COAL UNDER PRESSURE. [1963] 28p. 6 refs. Fuel Research Station Trans. NT598; [DSIR] NLL M. 3715.
Order from OTS or SLA $2.60 63-19835

Trans. of mono. Topochnye Ustroistva (Furnace Installations) ed. by A. A. Kanaev, Moscow, 1954, p. 231-255.

DESCRIPTORS: *Coal, *Combustion, Particles, Pressure, *Fuel consumption, Coke, Carbon, Flames, Surface properties, Furnaces.

A description is given of experimental apparatus and the method of measurement used for a laboratory examination of the combustion of separate particles and of a pulverized coal flame at pressures from 1 to 5 atm. Curves are given for the consumption of fuel for different pressures and particle diameters as a function of the residence time of the particle in the chamber. The specific rate of surface combustion under different combustion conditions is determined. (Author)

Kvitkovskii, L. N. and Gushetskaya, E. V.
DETERMINATION OF n-PARAFFIN HYDROCARBONS IN GASOLINES WITH THE HELP OF MOLECULAR SIEVES. [1963] [7]p. 7 refs.
Order from OTS or SLA $1.10 63-18415

Trans. of Khim[iya] i Tekhnol[ogiya] i Masel (USSR) 1962 [v. 7] no. 3, p. 61-64.

DESCRIPTORS: *Gasoline, *Alkanes, Organolites, Absorbents, Quantitative analysis.

Pechkovskaya, Z. B.
EFFECT OF MINERAL ADDITIVES ON THE KINETICS OF THERMAL COAL DECOMPOSITION. [1963] 16p. 24 refs. NCB Trans. A. 2028/SEH; [DSIR] NLL M. 3974.
Order from OTS or SLA $1.60 63-19856

Trans. of [Akademiya Nauk SSSR]. Inst[itut] Goryuch-[ikh] Isk[opaemykh]. Trudy, 1959, v. 8, p. 239-253.

DESCRIPTORS: *Coal, *Pyrolysis, Minerals, Additives, Reaction kinetics, Thermochemistry.

Sirota, B. A. and Dubrovskii, E. Ya.
EXPERIENCE IN WINNING PEAT WITH REDUCED MOISTURE CONTENT (Opyt Dobychi Torfa Ponizhennoi Vlazhnosti). June 63 [9]p. RTS-2222.
Order from OTS or SLA $1.10 63-23243

Trans. of Torfyanaya Promyshlennost' (USSR) 1962 [v. 39] no. 5, p. 14-17.

DESCRIPTORS: *Peat, Deposits, Thickness, Moisture, Agriculture machinery, Operation, *Briquettes, Production.

Results of research on the winning of peat with reduced moisture content are described. Recommendations are made on the depth of milling for this purpose. (Author)

Votlokhin, V. Z.
AUTOMATIC FLOW PHOTO-COLORIMETER (Avtomaticheskii Protochnyi Fotokolorimeter). Mar 63 [5]p. RTS-2208.
Order from OTS or SLA $1.10 63-15953

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1959 [v. 4] no. 3, p. 10-12.

DESCRIPTORS: *Colorimetry, *Photometers, Fluid flow, *Petroleum, *Fuel oil, *Kerosene, Design, Automatic.

A description is given of a photo-colorimeter used to analyze petroleum products. This apparatus incorporates an improvement of previous models in that the e. m. f. 's of two photocells, receiving light passed through the test sample and a standard product, are compared. Principles of design and operation are given.

Leather and Textiles

METHOD FOR REMOVAL OF THE YARN ENDS OF UNEVEN PROPERTY IN RING TWISTING MACHINE OR HIGH-DRAFT TWISTING MACHINE. 14 June 63, 4p. 6627/54 Japan.
Order from INT $12.00

Trans. of Japanese patent 6627/54 by Tokyo Rayon Co. Ltd., filed 3 Apr 53.

DESCRIPTORS: *Fibers, Machines, Production.

POLYMERISATION PROCESS. 21 May 63, 14p.
Order from OTS or SLA $1.60 63-18320

Trans. of Belgian patent 614,387, filed 26 Feb 62, by British Nylon Spinners Limited, B.N.S. case no. B 276, corresponding British pat. appl. filed 28 Feb 61.

DESCRIPTORS: *Fibers (Synthetic), *Polyamide plastics, Preparation, Ammonium radicals, Amines, Methanes, Dibasic acids, Carboxylic acids, *Adipic acid, *Ethylene amines, Polymerization, Condensation reactions.

The invention concerns the preparation of high molecular weight linear polyamides by condensation polymerisation of monomers which are the diammonic polymethylene salts of dibasic aliphatic acids or which are aliphatic, omega-amino carboxylic acids, and it relates more particularly to a continuous process for carrying out this polymerisation. (Author)

PROCESS FOR SYNTHESIS OF MINERAL FIBER. 18 June 63, 4p. 10873/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 10873/62 by Minoru Kunitomi, filed 22 Mar 59.

DESCRIPTORS: *Minerals, *Fibers, Manufacturing methods.

REGENERATED CELLULOSE THREADS. [28 Mar 63] 3p.
Order from OTS or SLA $1.10 63-18344

Trans. of French patent 1, 281, 444, appl. 2 Dec 60, granted 4 Dec 61, by C. T. A. Compagnie Industrielle des Textiles Artificiels and Synthetiques.

DESCRIPTORS: *Fibers, *Cellulose, *Viscose, *Rayon, Processing, Sulfuric acid, Sodium compounds, Zinc compounds, Sulfates, Additives, *Polyethylene plastics.

The invention concerns a process for spinning viscose containing cellulose with a high degree of polymerization and a γ of more than 65, containing small amounts of polyoxyalkylene or polyoxyalkylated compounds, into very dilute baths of sulfuric acid containing sodium sulfate and very small amounts of zinc sulfate at most at room temperature. Then the fiber is imparted a high stretch, washed, finished and dried in the usual manner. (Author)

STRETCHED FIBERS WITH CELLULAR STRUCTURE AND THEIR PREPARATION. [31 Jan 63] [5]p.
Order from OTS or SLA $1.10 63-18391

Trans. of French patent 1,301,035, appl. filed 25 July 61, granted 2 July 62, by Phillips Petroleum Co., U.S.A.

DESCRIPTORS: *Fibers (Synthetic), Plastics, Polymers, Ethylenes, *Polyethylene plastics, Density, Crystal structure, Hydrazines, *Expanded plastics.

Polyethylene of a high density is converted to foam and stretched to give filaments of a density as low as 0.096kg./dm^3 (the density is 1.025kg./dm^3 for raw polyethylene). The density of the filaments obtained is controlled by controlling the type and quantity on the foaming agnet added to the extruded product.

Arkhangelskaya, M. P. and Ushakova, K. N.
EXPERIENCE IN THE PROCESSING ACETATE RAYON WITH VARIOUS PROPERTIES IN SILK-WEAVING PRODUCTION. [31 May 63] 5p. [refs. omitted].
Order from OTS or SLA $1.10 63-18378

Trans. of Telstil['naya] Prom[yshlennost'] (USSR) 1962, v. 22, no. 10, p. 51-53.

DESCRIPTORS: *Silk, Production, *Rayon, *Acetates, Processing, *Fibers (Synthetic), Filaments, Tensile properties, Rupture.

Chubukov, A. A., Ivanov, A. V., and Chernagorov, L. L.
CLEANING OF SPINNERETS DURING THE PRODUCTION OF VISCOSE FIBERS (Ochistka Fil'ev pri Proizvodstve Viskoznogo Volokna). [31 May 63] [5]p. 2 refs.
Order from OTS or SLA $1.10 63-18376

Trans. of Khim[icheskie] Volokna (USSR) 1963, no. 1, p. 69-70.

DESCRIPTORS: *Fibers (Synthetic), *Viscose, Production, Industrial equipment, Cleaning.

An apparatus for the ultrasonic washing of spinnerets is described.

Coover, Harry Wesley, Jr. and Joyner, Frederick Blount.
FIBER-FORMING POLYPROPYLENE. [5 Apr 63] 23p. 2 refs.
Order from OTS or SLA $2.60 63-18350

Trans. of French patent 1,309,443, filed 1 Oct 61, granted 8 Oct 62, by Eastman Kodak Co., U. S. A., pat. appl. 62,075 filed 12 Oct 60 in U. S. A. (pub. in [Bulletin Officiel de la Propriete Industriélle] (France) 1962, no. 4).

DESCRIPTORS: *Fibers (Synthetic), *Polyethylene plastics, Production, *Propenes, Polymerization, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Ethyl radicals, Chlorides, *Titanium compounds, *Phosphorus compounds (Organic), Amides, Methyl radicals.

Propylene is polymerized at a temperature between about 0 and 250°C. and under a pressure of about 2 to 70 hpz in the presence of hydrogen and a catalytic mixture containing three constituents. The catalytic mixture is substantially formed by ethyl-aluminum dichloride, titanium trichloride and tris-N, N-dimethylphosphoramide. This polypropylene is practically not degraded before or after spinning and has a ratio of the weight-average molecular weight to the number-average molecular weight of at least 3:0. (Extracted).

Dolmetsch, Hans.
PROCESS FOR REDUCING THE SWELLING AND INCREASING THE ABRASION RESISTANCE OF PRODUCTS, SUCH AS FIBERS, YARNS, OR FABRICS MADE FROM NATIVE OR REGENERATED CELLULOSE. [29 Apr 63] 9p. 4 refs.
Order from OTS or SLA $1.10 63-18383

Trans. of German patent 1,141,973, appl. 11 Feb 59, pub. 3 Jan 63.

DESCRIPTORS: *Fibers (Natural), Textiles, *Cellulosic plastics, Processing, *Moistureprofing, Abrasion, Inhibition, *Cyanogen chlorides, *Amines, *Melamine, *Urea, Ammonium compounds, Phosphates, Aldehydes.

The invention concerns a process for decreasing swelling and increasing the abrasion resistance of products, such as fibers, filaments, or fabrics, from native or regenerated cellulose, with cyanuric halides characterized in that the dry or wet material is treated at a temperature between 15 and 60°C. for 1-30 minutes, preferably 5 minutes, with an aqueous solution or suspension of 10-100 g., preferably 30-60 g., of a cyanuric halide per kg. cellulose (the pH of the solution being 7 - 10, preferably about 8), then dried and heat-treated at about 100°C., preferably about 110-120°C. The material treated in a bath containing a cyanuric halide is treated in the same solution or a separate subsequent bath with an amino compound, such as urea, melamine, an aliphatic amine or the like, and the treated product is dried and heat-treated at about 100°C. (Author)

Jeschke, Carl.
PROCESS AND MACHINE FOR THE PRODUCTION OF TEXTILE BANDS COMPOSED OF BONDED FILAMENTS. [5 Apr 63] [7]p.
Order from OTS or SLA $1.10 63-18267

Trans. of French patent 611,929, filed 27 Feb 26, granted 19 July 26, pub. 13 Oct 26 (pat. appl. filed 29 Feb 25, Czechoslovakia).

DESCRIPTORS: *Tapes, Production, *Fibers, Bonding, Machines, Design.

Kevorkyan, A.
THE EFFECT OF TWIST ON THE STRENGTH AND ABRASION RESISTANCE OF MAN-MADE FIBER YARNS (Vliyanie Krutki na Prochnost' i Istipaemost' Iskusstvennykh Nitei). [14 May 63] [15]p. 4 refs.
Order from OTS or SLA $1.60 63-18335

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Tekhnol[ogiya] Tekstil['noi] Prom[yshlennosti] (USSR) 1960 [v. 4] no. 2, p. 9-16.
Another trans. is available from OTS or SLA $1.60 as 61-23381, Courtaulds ML-3237, Dec 60, 13p.

DESCRIPTORS: *Fibers, *Fibers (Synthetic), *Abrasion, Textiles, Tensile properties, *Filaments, Rupture, Viscose, Degradation.

For abstract see Technical Translations 7: 438, 1962.

Konopasek, M.
THEORY OF CONTINUOUS FALSE TWIST.
17 July 62, 9p. 5 refs. [Trans] T. 1396; [DSIR] NLL M. 10006.
Order from OTS or SLA $1.10 63-15216

Trans. of Tekstil'naya Promyshlennost' (USSR) 1961 [v. 21] no. 12, p. 22-26.

DESCRIPTORS: *Fibers (Synthetic), Textile industry, Theory, Processing.

Kotylarevskii, Z. N.
ROTARY PLANT FOR FINISHING VISCOSE RAYON IN CAKES. [19 Apr 63] 2p.
Order from OTS or SLA $1.10 63-18365

Trans. of Russian patent 143,195, appl. filed 9 June 61, 729,687/28, prior author's certificate 141,583, 27 Feb 60 (pub. in #Byulleten' Izobretenii (USSR) 1961, no. 23)

DESCRIPTORS: *Viscose, *Rayon, *Fibers (Synthetic), Finishes, Centrifuges, Hydraulic systems, Industrial plants, Rotation,

The rotary plant for finishing viscose silk in cakes is

characterized in that to save working space by combining the finishing (dressing) of the cakes with that of the secondary cakes, inside the circle formed by the troughs for the blocks, a second row of troughs of smaller size is arranged concentrically, having the same conducts for the finishing liquor, above which, to the same cantilevers which bear the main cakes, the sprinkling blocks with the secondary cakes are attached by means of additional clamps. (Author)

Krcma, A. and Vsiansky, J.
A METHOD OF ACCELERATING THE DYEING OF POLYESTER AND OTHER SYNTHETIC FIBERS. [1963] 2p.
Order from ATS $5.00 ATS-77Q70C

Trans. of Czechoslovakian patent 103,012, valid from 23 July 60, filed 23 July 60, opened for public inspection 15 Aug 61, issued 15 Mar 62.

DESCRIPTORS: *Fibers (Synthetic), *Polyester plastics, *Dyeing.

Kremnev, O. A. and others.
RAPID DRYING OF ARTIFICIAL SILK (VISCOSE RAYON) IN CAKE FORM. [1963] [13]p. 7 refs.
Order from OTS or SLA $1.60 63-18270

Trans. of Khim[icheskie] Volokna (USSR) 1962, no. 4, p. 37-41.

DESCRIPTORS: *Fibers (Synthetic), *Viscose, *Rayon, Driers (Apparatus).

A new uniform drying method is proposed which includes the use of air as a drying agent; zones in the drier with special preparation and circulation of the heat carrier; maintaining the certain specified conditions in the drier; circulation of air around both the internal and external cake surfaces by using hollow tubes or grids for holding the cakes in the carriers; and the use of optimal aerodynamic conditions to insure the heat carrier a uniform drying and shrinkage of the cakes. The uniformity of dyeing cakes was thus considerably improved compared to those dried by the ordinary industrial drying equipment.

Matsumoto, Katsushu, Saito, Ko, and Sato, Motonobu.
METHOD OF MANUFACTURING DYE-ABLE POLYETHYLENE FIBER. July 63, 6p.
Order from SA $16.00 SA Code-P-183

Trans. of published Japanese patent 9763/1962, cl. 42 D 2 (25 H 311.1) appl. no. 7105/1960 filed 8 Mar 60, pub. 31 July 62, by Kureha Kasei Co., Ltd.

DESCRIPTORS: *Fibers (Synthetic), *Polyethylene plastics, Manufacturing methods, Additives, *Carbonates, *Dyes.

Mieck, Klaus-Peter and Stöver, Hellfried.
STATIC AND DYNAMIC CORD TESTS (Über einige Ergebnisse Statischer und Dynamischer Cordprüfungen), [24 Apr 63] [26]p. 19 refs.
Order from SLA $2.60 63-18384

Trans. of Faserforschung und Textiltechnik (East Germany) 1962, v. 13, no. 11, p. 502-511.

DESCRIPTORS: *Tires, *Fibers, Test methods, Mechanical properties.

A method of dynamic measurement of tire cord strength is described. The values measured by this method on cord threads with different twist, cord threads impregnated under different tensions and cord threads with defined prehistory have been compared with results received by the De Mattia test. On the basis of correlations between the two dynamic testing methods — partially by comparison with the performance in tires — conclusions are drawn to the estimation of behavior of tire cord in use. (Author)

Mikhailov, N. A.
ELASTICITY AND RELAXATION OF LEATHER (Uprugost' i Relaksatsiya Kozhi). May 63 [10]p. 4 refs. RTS-2268.
Order from OTS or SLA $1.10 63-23247

Trans. of Legkaya Promyshlennost' (USSR) 1948 [v. 8] no. 11, p. 18-20.

DESCRIPTORS: *Leather, Elasticity.

Mikhailov, N. V. [Tokareva, L. G.] and others.
STABILIZATION OF POLYETHYLENE TEREPHTHALATE. [1963] [21]p. 20 refs.
Order from OTS or SLA $2.60 63-18292

Trans. of Vysokomol[ekulyarnye] Soed[ineniya] (USSR) 1962, v. 4, no. 8, p. 1186-1192.
Another trans. is available from ATS $13.25 as ATS-84Q68R [1963] 9p.

DESCRIPTORS: *Fibers (Synthetic), *Polyester plastics, Ethylenes, *Phthalates, Pyrolysis, Oxidation, Hydrolysis, Degradation, Theory, Viscosity, Physical properties, Mechanical properties, Stabilization, Additives, *Phosphorus compounds (Organic), *Phosphites, Molecular weight, Melting.

The thermal and thermooxidative degradation of polyethylene terephthalate and fibers made therefrom was studied at 170, 200 and 220°C. It was found that, under the effect of high temperature, oxidizing and hydrolytic processes occur, which lead to a decreased viscosity and impaired physico-mechanical fiber properties. It was found that, by introducing organophosphorus compounds of the phosphite type during the preparation of polyethylene terephthalate, the molecular weight of the polymer, its stability to melting on remelting, are increased and the thermal stability of the

fiber and its stability to hydrolysis are increased. Hypothesis is given on the mechanism of the thermo-oxidative and hydrolytic degradation of polyethylent terephthalate. (Author)

Mogilevskii, E. M. [Khor'kova, O. G., and Finger, G. G.].
DESULFURATION OF VISCOSE FIBER BY MEANS OF SURFACE ACTIVE AGENT SOLUTIONS. [6 Mar 63] 12p. 4 refs.
Order from OTS or SLA $1.60 63-18343

Trans. of Tekstil'naya Promyshlennost' (USSR) 1958, v. 18, no. 11, p. 9-12.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-13806, Courtaulds ML-3033, 8 Sep 59 [8]p.

DESCRIPTORS: *Fibers (Synthetic), Textiles, *Viscose, Surface-active agents, *Cellulose, Chemical reactions, *Rayon, Processing.

For abstract see Technical Translations 4:48, 1960.

Morimoto, Saichi, Ishihara, Masao and others.
TREATING METHOD OF POLYPROPYLENE FIBER. July 63, 8p.
Order from SA $16.00 SA Code-P-182

Trans. of published Japanese patent 10895/1962, cl. 48-D-0 (25-N-231) (48-D-942) appl. no. 42794/1960 filed 19 Oct 60, pub. 11 Aug 62, by Toyo Spinning Co., Ltd.

DESCRIPTORS: *Fibers (Synthetic), *Polyethylene plastics, *Propenes, Additives, *Organic solvents, Hexanes, *Heptanes, Octanes, Toluenes, Xylenes, *Carbon tetrachloride, Ethanes, Benzenes, Chlorides, Ketones, Cyclopentanones, Cyclohexanols, Acetates, Butyl radicals, Ethylenes, Glycols, Naphthalenes, *Dyes.

Muroi, Tadasni; Okata, Akira and others.
A PROCESS FOR PRODUCING A COPOLYMERIZED AMIDE. [1963] 6p.
Order from OTS or SLA $1.10 63-16643

Trans. of pub. Japanese patent 15,946/62, cl. 26D, by Agency of Industrial Science & Technology, appl. 13 Oct 60. as no. 44 140, pub. 6 Oct 62.

DESCRIPTORS: *Amides, *Polyamide plastics, *Nylon, *Fibers (Synthetic), Amines, Methylenes, Thermoplastics, Adipic acid, Pyrazines, Phthalic acids, Copolymerization.

The invention concerns a process for producing a copolymerized amide which comprises subjecting adipic acid-piperazine to heat reaction with terephtharic acid-hexamethylene-diamine in the molar ratio of adipic acid piperazine nylon salt against terephthalic acid hexamethylene diamine nylon salt ranging from 8:2 to 2:8 to produce a high molecular weight polymer having a melting point suitable for producing melt-spinning polymer and useful in practical use. (Author)

Nikonova, E. A. and Myagkov, V. A.
EFFECT OF THE CONDITIONS OF PREPARATION OF VISCOSE ON ITS TRANSPARENCY. [1963] [13]p. 7 refs.
Order from OTS or SLA $1.60 63-18294

Trans. of Khim[icheskie] Volokna (USSR) 1961, no. 5, p. 27-31.

DESCRIPTORS: *Viscose, Iron, Sulfides, Cellulose, Surface-active substances, Amines,

The presence of dispersed air in viscose decreases its transparency. Dissolved air does not influence viscose transparency. A decrease in viscose transparency in the process of ripening is due to the presence of Fe in it which is gradually converted into sulfide. The presence of Ca also decreases the transparency, especially when it is introduced into the dissolving pulp. The hemicellulose present in amounts up to 5.3% does not change the transparency. The addition of surface-active agents, such as oxyethylated aliphatic amines (berol-visco 31) to aged viscose improves viscose transparency. The addition of alizarin oil (berol-visco 30) to aged viscose, on the other hand decreases the transparency. The addition to the alkali solution of alizarin oil in amounts exceeding 3% of α-cellulose by weight improves the transparency of a viscose which contains relatively a small amount of iron. (Author)

Sergeeva, T. A. and Stepanova, E. I.
IMPROVEMENT OF THE PROCESS FOR DYEING SHEEPSKIN (K Voprosu Usovershenstvovaniya Tekhnologii Krasheniya Shubnoi Ovchiny). July 63 [9]p. RTS-2278.
Order from OTS or SLA $1.10 63-23233

Trans. of Kozhevenno-Obuvnaya Promyshlennost' (USSR) 1962, v. 4, no. 2, p. 24-27.

DESCRIPTORS: *Leather, Processing, *Dyes, Mammals, Skin, Mechanical properties.

Shinohara, Yasuo and Tsuda, Teizo.
METHOD OF IMPROVING DYE-AFFINITY OF POLYOLEFIN. July 63, 6p.
Order from SA $16.00 SA Code-P-193

Trans. published Japanese patent 9836/1962, cl. 26-B-11 (42-D-21) (136-G-22) (48-B-02) appl. no. 3002/1960 filed 3 Feb 60, pub. 31 July 62, by Toyo Rayon Co.

DESCRIPTORS: *Fibers (Synthetic), *Polyethylene plastics, *Ethylenes, *Propenes, Methyl radicals, *Vinyl radicals, *Pyridines, *Acrylic acid esters, *Styrenes, *Graft polymers, Copolymerization, *Dyes

Sokolova, V. A., Glikman, S. A. and others.
LOWERING VISCOSITY OF SPINNING SOLUTIONS. [8 Feb 63] 2p.
Order from OTS or SLA $1.10 63-18342

Trans. of Russian patent 146,432, appl. filed 7 July 61, 737,499/23 (pub. in #Byulleten' Izobretenii (USSR) 1962, no. 9).

DESCRIPTORS: *Fibers, *Cellulose acetate, Solutions, Acetone, Extrusion, Viscosity, Reduction, Heat treatment.

A method is given for decreasing the viscosity of spinning solutions of cellulose acetate, characterized in that the acetone solution of secondary cellulose acetate is exposed for several hours to a temperature of about 80°C. (Author)

Tokareva, L. G. and others.
THE LIGHT-RESISTANCE OF POLYPROPYLENE AND POLYPROPYLENE-BASED FIBERS. Communication no. 5 on the Processes and Mechanisms of Aging of Synthetic Fibers. 11 Oct 61, 9p. 9 refs.
Order from OTS or SLA $1.10 63-18291

Trans. of Khim[icheskie] Volokna (USSR) 1962, no. 3, p. 23-25.

DESCRIPTORS: *Fibers (Synthetic), *Polyethylene plastics, *Propenes, Aging, Pyrolysis, Oxidation, *Ultraviolet radiation, *Photochemical reactions, Degradation, Theory, Physical properties, Mechanical properties, Stabilization, Additives, *Phosphorus compounds (Organic), *Phosphites.

The process of accelerated photo-degradation of polypropylene and polypropylene-based fibers was investigated and efficient stabilizers were found which protect the physicalmechanical properties of polypropylene fibers from photo-degradation by ultraviolet irradiation at increased temperatures. It was shown that the most efficient stabilizers against photo-degradation of polypropylene are product 264-phosphite and product 26, in the presence of which at accelerated photo-degradation the initial physical properties of fibers are almost completely retained. It was found that many stabilizers against the thermal oxidation of polypropylene, such as products 264, 264-phosphite, etc., are at the same time inhibitors of the photochemical degradation of polypropylene. The common action of polypropylene stabilizers, which was established earlier for polyamides, makes it possible to assume that polypropylene stabilizers with complex properties can be produced. The theory is advanced which explains the mechanism of the simultaneous action of stabilizers, which protect the polypropylene fibes against thermal oxidation as well as light degradation of the polymer. (Author)

Usenko, V. A. and Murav'eva, K. N.
THE EFFECT OF TWIST ON THE PHYSICO-MECHANICAL PROPERTIES OF ACETATE YARN (Vliyanie Krutki na Fiziko-Mekhanicheskie Svoistva Atsetatnykh Nitei). [1963] [16]p. 1 ref.
Order from OTS or SLA $1.60 63-18375

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Tekhnol[ogiya] Tekstil['noi] Prom[yshlennosti] (USSR) 1960 [v. 4] no. 1, p. 32-39.

DESCRIPTORS: *Fibers (Synthetic), *Acetates, Mechanical properties, *Filaments.

The strength and breaking length of cellulose acetate filaments as well as of any other kinds of yarns and threads increase with increasing twist up to a maximum (critical twist) and then gradually decrease. The optimum elastic properties of these filaments are found at a minimum twist. The resistance to repeated bending decreases rapidly with increasing twist, the maximum resistance being exhibited by soft-spun (untwisted) filaments. The stability to repeated stretching increases only insignificantly with increasing twist. Shrinkage after wetting the filament occurs only in the case of very high twists and is very small as compared with that of viscose fibers. The abrasion resistance decreases with increasing twist and increases with increasing number of elementary fibers in the thread. The maximum abrasion resistance is exhibited by untwisted filaments. The acetate yarns exhibit better elastic properties, higher resistance to repeated stretching and higher flexibility as compared to viscose yarns of analogous structure, but they have a lower breaking strength and especially a smaller abrasion resistance. On account of their valuable properties shown by analysis, high-count (not below 90) cellulose acetate yarns with not less than 2000-2500 elementary filaments and the lowest possible twist are recommended for use in woven and knitted fabrics. (Author)

Usenko, V. A. and Kalandarov, D. I.
THE EFFECT OF TWIST ON THE PHYSICAL/MECHANICAL PROPERTIES OF VISCOSE CORD YARN. [10 Apr 63, 17p.] 6 refs.
Order from OTS or SLA $1.60 63-18363

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Tekhnol[ogiya] Tekstil['noi] Prom[yshlennosti] (USSR) 1961 [v. 5] no. 2, p. 10-16.

DESCRIPTORS: *Fibers (Synthetic), *Viscose, Cordage, Mechanical properties, Deformation.

The breaking length and strength of viscose yarn used for producing cord increase to a limiting value (critical twist) with an increase in twist, and then decrease. Within the range tested (up to 750 turns/meter) breaking elongation of both the viscose yarn and of the cord made from it increase with degree of twist. An increase in the number of single threads in viscose yarn and cord of the same count results in a greater breaking length of the yarn and strength of cord. Resistance of cord yarns to repeated flexural deformations increases by increasing the residual twist at different twist ratios. By increasing the number of single threads in cord yarn of the same count, its resistance to repeated flexural deformation increases. (Author)

Ziabicki, A.
SOME REGULARITIES IN SPINNING SYNTHETIC FIBERS. Supplement to the report "Influence of the Spinning Rate on the Stretching of Perlon Fibers [by H. Sauer]. 21 Feb 63, 10p. 7 refs.
Order from SLA $1.10 63-18089

Trans. of Faserforschung u[nd] Textiltechnik (East Germany) 1957, v. 8 [no. 11] p. 467-469.

DESCRIPTORS: *Fibers (Synthetic), Thickness, *Heat transfer, Numerical analysis, Thermal radiation, *Nylon, Polyamide plastics, *Rayon, Tensile properties.

(See also 59-17400)

Paints and Finishes

ANTIFOULING METHOD. 20 June 63, 5p. 3710/57 Japan.
Order from INT $15.00

Trans. of Japanese patent 3710/57 by Toyo Kooodsu Kogyo Co. Ltd., filed 28 Oct 55.

DESCRIPTORS: *Antifouling coatings.

METHOD OF COATING FLUORESCENT SUBSTANCES WITH A CONDUCTIVE TRANSPARENT FILM. 20 June 63, 3p. 4852/57 Japan.
Order from INT $7.50

Trans. of Japanese patent 4852/57 by Dainippon Toryo Co. Ltd., filed 12 Apr 55.

DESCRIPTORS: *Coatings, *Fluorescence, Materials, Films, Electrical conductance.

METHOD OF MANUFACTURING TITANIUM DIOXIDE PIGMENT. 18 June 63, 39p. 11658/62 Japan.
Order from INT $115.50

Trans. of Japanese patent 11658/62 by American Cyanamide Co., filed 8 Dec 59.
Another trans. is available from SA $40.00 as SA Code-P-218, July 63, 46p.

DESCRIPTORS: *Titanium compounds, *Dioxides, *Pigments, Manufacturing methods.

Platonov, V. M. and Kreshtakova, G. P.
SPRAY COATING OF AUTOMOBILE ENGINE VALVES WITH ALUMINUM. June/July 63, 1700 words.
Order from HB $3.40 HB-5994

Trans. of *Metallovedenie i Term[icheskaya] Obrabotka Metallov (USSR) 1963, no. 5, p. 61-63.

DESCRIPTORS: *Aluminum, *Valves, *Exhaust valves, *Internal combustion engines, *Automative industry, *Coatings, *Sprays, *Aluminum coatings, Microstructure.

Sramek, M. and Komarek, J.
STRIPPABLE COATING FOR ELECTRICAL INSULATING PROCESSES. [1962] 1850 words, 22 refs.
Order from TTIS $12.00

Trans. of Chemicky Prumysl (Czechoslovakia) 1962, v. 12[(37), no. 11] p. 637-638.

DESCRIPTORS: *Electric insulation, Electric machinery, Metals, Coatings, *Protective treatments, *Cellulosic plastics, *Impregnation.

Photographic Materials

MANUFACTURING PROCESS FOR DIFFUSE-TRANSFER POSITIVE MATERIAL. 20 June 63, 5p. 8133/58 Japan.
Order from INT $13.50

Trans. of Japanese patent 8133/58 by Fuji Shashin Film Co. Ltd., filed 4 Nov 58.

DESCRIPTORS: *Photographic paper, Manufacturing methods, Materials.

MANUFACTURING PROCESS FOR DIFFUSE-TRANSFER POSITIVE MATERIAL. 20 June 63, 7p. 5480/58 Japan.
Order from INT $21.00

Trans. of Japanese patent 5480/58 by Fuji Shashin Film Co. Ltd., filed 19 Sep 35.

DESCRIPTORS: *Photographic paper, Manufacturing methods, Materials.

REPRODUCTION MATERIAL FOR PREPARING PRINTING FORMS AND METHOD FOR CONVERTING THIS MATERIAL INTO PRINTING FORMS. [1963] 7p.
Order from OTS or SLA $1.10 63-16452

Trans. of Belgian patent 613,039, filed 24 Jan 62 (German priority: 25 Jan 61) by Kalle AG.

DESCRIPTORS: *Lithography, *Coatings, *Metal plates, Aluminum, Zinc, Azo radicals, Sulfonic acids, *Plastics, Phenol-formaldehyde resins, Printing, Photo sensitivity, *Photographic plates.

The purpose of this invention is the manufacture of a reproduction material for the photomechanical preparation of printing forms. It consists of a support that is common for printing forms, and of a reproduction layer which adheres to this support. The reproduction layer is formed substantially of a mixture of zonium salts of mineral acids and / or organic sulfonic acids of low molecular weight, and of a weight that is at least the same, of novolak phenolic resins which are soluble, and non-hardenable by heat. The reproduction material is transformed into printing forms by a photomechanical method. The reproduction material that is illuminated through a tracing is treated with aqueous alkaline solutions that possibly contains organic solvents.

REVERSAL DEVELOPMENT. METHOD FOR FORMING LATENT IMAGE. 13 June 63, 8p. 5529/53 Japan. Order from INT $22.50

Trans. of Japanese patent 5529/53 by Fuji Shashin Co. Ltd., filed 22 Oct 51.

DESCRIPTORS: Photography, *Photographic images.

Burg, Marion and Cohen, Abraham Bernard.
REPRODUCTION OF IMAGES BY PARTICLE TRANSFER. [1962] 2p.
Order from OTS or SLA $1.10 62-16196

Trans. of French patent 1,279,316, by E. I. DuPont De Nemours and Co., appl. 3 Nov 60, issued 13 Nov 61

DESCRIPTORS: Reproduction, *Images, *Particles, *Thermoplastics, *Photographic images.

Cassiers, P. M.
COLOR OF THE SILVER IN IMAGES FORMED BY INVERSION TRANSFER [Couleur de l'Argent dans les Images Formées par Inversion-Transfert]. Paper from International Conference of Sc[ientific] Phot[ography] Köln, 1956, [1962] 2p. (figs. omitted) 3refs
Available on loan from SLA 62-10264

Trans. of Sci[ence et] Industr[ies] Phot[ographiques] (France) [1957, ser. 2, v. 28, no. 1] p. 36-37.

DESCRIPTORS: *Silver, *Photographic emulsions, *Images, Colors, Thiols, Crystal structure, Optical properties.

Heymer, Gerd and Sundhoff, Dieter.
MEASUREMENT OF GRADATION OF COLOR FILMS. [1963] 12p. (figs. formulae omitted).
Order from SLA $1.60 63-18311

Trans. of Agfa Research Bulletin [sic] 1935, p. 62-76.

DESCRIPTORS: *Color film, Density, Colors, Measurement.

Ikeda, Tomoaki, Murakami, Takashi and others.
CONCERNING IMAGE FORMATION IN ELECTROPHOTOGRAPHY. REPT. I. FORMATION OF HALFTONE IMAGES BY CONTACT PRINTING OF HALFTONE POSITIVES. [1963] [20]p. (foreign text included).
Order from SLA $1.60 63-18322

Trans. of Denshi Shashin (Japan) 1961, v. 3, no. 3, p. 49-54.
Another trans. is available from ATS $13.50 as ATS-51P62] [1962] 10p.

DESCRIPTORS: *Electrophotography, *Printing, Optical images, Photographic paper.

The object of this work is the formation of halftone images on Electrofax paper by contact printing of halftone positives. The best results are obtained by using a strobo flash as the light source. The light intensity is controlled by irises attached to the front of the flash and the charging voltages of the main condenser. As the beam is approximately parallel by the attachment of the iris, images of good quality are built up. On exposing, contact is made in a vacuum frame. To prevent discharge effect, a sheet of transparent highly-insulating film is inserted between the charged layer and the positive. Myler No. 25 and No. 50 are used with good results. The halftone positive scales used in the work are 150 line/inch and 300 line/inch. As the result of examining the images built up, because the particle of the toner is large, the edge of every halftone dot is not sharp and in that, there is microscopic unevenness of density.

Perfilov, V. A.
LA DESTRUCTION DE L'IMAGE LATENTE DES TRACÉS DE PARTICULES ALPHA DANS L'ÉMULSION DES PLAQUES PHOTOGRAPHIQUES (Destruction of α-Particle Tracks in Photographic Layer). 5p.
Order from OTS, ETC or CNRS $0.80 62-26502

Trans. in French of Akademiya Nauk SSSR. Doklady, 1944, vol. [42] no. 6, p. 258-261.

DESCRIPTORS: *Photographic emulsions, Photographic plates, *Alpha particles, Tracking, Optical images, Demolition, Oxidation, *Polonium.

Sherman, F. S.
CHANGES IN DIMENSIONS OF CELLULOSE ESTER FILMS. [1963] 15p. 9 refs.
Order from OTS or SLA $1.60 63-16640

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 2, p. 151-157.

DESCRIPTORS: *Cellulose esters, *Motion picture film, Degradation, Storage, Aging (Materials).

Smirnov, O. K., Levi, S. M. and others.
THE ANTICOMET EFFECT OF WETTING-AGENTS IN COATING PHOTOGRAPHIC EMULSIONS. II. THE ANTICOMET EFFECT OF SOME DERIVATIVES OF ALKYLPHOSPHINIC ACIDS. [1963] 7p. 9 refs.
Order from OTS or SLA $1.10 63-16710

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1958, v. 3, no. 6, p. 416-418.
Another trans. is available from LC or SLA mi$2.40, ph$3.30 as 60-18484 [1960] 13p.

DESCRIPTORS: *Surface-active substances, Coatings, *Photographic emulsions.

Conclusions obtained in investigation of derivatives of alkenylsuccinic acids were confirmed by investigation of the anticomet properties of wetting-agents of the class of derivatives of alkylphosphinic acids. It follows from these conclusions that the anticomet properties of wetting-agents are determined by their structure. A systematic relationship between the anticomet properties, surface-pressure and kinetic wetting could not be established on the basis of the experimental material obtained. (Author)

Smirnov, O. K., Levi, S. M., and Averbakh, I. O.
THE ANTICOMET EFFECT OF WETTING-AGENTS IN COATING PHOTOGRAPHIC EMULSIONS. III. THE ANTICOMET EFFECT OF ESTERS OF SULFOSUCCINIC ACID AND THEIR INFLUENCE ON KINETIC WETTING. [1963] 10p. 17 refs.
Order from OTS or SLA $1.10 63-16712

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR), 1959, v. 4, no. 6, p. 423-426.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 60-16540 [1960] 8p.

DESCRIPTORS: *Surface-active substances, *Photographic emulsions, Coatings, *Esters, Thio radicals, Succinic acids, Sodium compounds.

Vilenskii, Yu. B., Chen', Kuan-min and others.
ELIMINATION OF DISTORTIONS IN INTERNAL MASKING IN MULTILAYER COLOR FILMS. [1963] 7p. 2 refs.
Order from OTS or SLA $1.10 63-16713

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1960, v. 5, no. 3, p. 183-186.
Another trans. is available from OTS or SLA $1.10 as 61-20070 [1961] 5p.

DESCRIPTORS: *Color photography, *Color film, Colors, Dyes, Absorption, Photographic emulsions, Distortions.

For abstract see Technical Translations 7: 539, 1962.

Vorob'ev, V.
SOVIET LENSES. [1963] 15p.
Order from OTS or SLA $1.60 63-18071

Trans. of Sovetskoe Foto (USSR) 1961, v. 21, no. 10, p. 26-29.

DESCRIPTORS: *Photographic lenses, Specifications, Cameras.

Vorob'ev, V., Pesnopevtsev, P., and Kruger, Ya.
8-MILLIMETER MOTION PICTURE CAMERAS AND PROJECTORS. [1963] 12p.
Order from OTS or SLA $1.60 63-18070

Trans. of Sovetskoe Foto (USSR) 1962, v. 22, no. 10, p. 30-33.

DESCRIPTORS: *Motion picture cameras, Motion picture projectors, Motion picture film.

Zimkin, E. A.
REMARKS IN CONNECTION WITH THE ARTICLE OF A. L. KARPOVA CONCERNING THE PHYSICO-CHEMICAL METHOD OF ANALYSIS OF THE ACTIVE ADMIXTURES OF GELATINE (SCIENTIFIC DISCUSSION). [1963] 9p. 12 refs.
Order from OTS or SLA $1.10 63-16714

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1960, v. 5, no. 4, p. 299-301.

DESCRIPTORS: *Gelatin, *Photographic emulsions, Electrodialysis, Adsorption spectrum, Sodium compounds, Thiosulfates, Thiourea, Sulfides, Silver compounds, Dioxides, Sulfites, Nitrates, Dichromates.

Plastics

BIAXIAL STRETCHING. [30 Apr 63] [11]p. 4 refs.
Order from OTS or SLA $1.60 63-18332

Trans. of French patent 1,305,343, filed 13 Aug 60, granted 27 Aug 62, by Gevaert Photo Producten N. V., Belgium, (pat. appl. filed 14 Aug 59, Netherlands, 242,330) (pub. in [Bulletin Officiel de la Propriete Industrielle] (France) 1962, no. 40).

DESCRIPTORS: *Thermoplastics, *Plastic films, Extrusion, *Material forming, *Rolling mills, Halocarbon plastics, Carbon.

The patent concerns an apparatus for the biaxial stretching of thermoplastic films, in which the extruded film is guided between feed rollers and then between traction rollers which rotate at a speed equal or superior to that of the feed rollers, characterized in that the thick edges of the film between the feed and traction rollers are guided along divergent slides, which do not stick to the edges of the film at the stretching temperature. An apparatus for the biaxial stretching of thermoplastic films, according to claim 1, characterized in that the guiding slides are made of polyethylene tetrafluoride or carbon. (Author)

COMPOSITION OF THE POLYFUNCTIONAL ISOCYANATES FOR TREATING PAPER. 20 June 63, 21p. 18313/62 Japan.
Order from INT $63.00

Trans. of Japanese patent 18313/62 by W. R. Grace & Co., U. S. A., filed 2 June 60.

DESCRIPTORS: *Isocyanate plastics, Paper, Impregnation.

COMPOSITION FOR PRODUCING A POLYOLEFIN FILM RESISTANT TO THE FORMATION OF A FOGGING VEIL. [1963] [29]p. 4 refs.
Order from OTS or SLA $2.60 63-18060

Trans. of Belgium patent 615,683, filed 28 Mar 62, by Union Carbide Corp. (priority: 29 Mar 61, U. S. A.).

DESCRIPTORS: *Polyethylene plastics, *Plastic films, Production, Vapor, Humidity, Condensation, *Antifogging agents, *Expoxides, *Ethylene oxide, *Stearates, *Laurates, Food, *Packaging.

The invention concerns the prevention of the formation of fogging veils on transparent polyolefin films used in wrapping humid food products. The films are comprised of polyethylene, polypropylene, or a copolymer of ethylene and propylene. The anti-fogging additives are: Polyoxyethylene-sorbitan tristearate, polyoxyethylene-sorbitan monostearate, polyoxyethylene monostearate, polyoxyethylene distearate, polyoxyethylene monolaurate, polyoxyethylene-steryl-amine, and polyoxyethylene-lauryl-amide.

E-CAPROLACTAM POLYMERIZATION PROCESS. 26 June 63, 5p. 18590/60 Japan.
Order from INT $13.50

Trans. of Japanese patent 18590/60 by Toyo Rayon Co. Ltd., filed 4 July 58.

DESCRIPTORS: *Amines, Hydroxides, Anhydrides, *Polymerization, *Polyamide plastics, *Nylon.

IMPROVEMENTS IN RESINOUS COMPOSITIONS USED AS BINDERS FOR FOUNDRY SANDS IN METHODS FOR THEIR PRODUCTION AND FOR THE PRODUCTION OF MOLDS AND CORES AND IN THESE LATTER PRODUCTS. [1963] [19]p.
Order from OTS or SLA $1.60 63-18093

Trans. of Belgium [patent] 619,879, descriptive memorandum FA. 12.776, by Aristo Corp.

DESCRIPTORS: *Sand, Foundries, Production, *Composite materials, *Binders, *Molding, *Plastics, *Furan resins, *Urea-formaldehyde resins.

The invention has for its object a resinous composition, curable by aid of an acid and usable as a binder for foundry cores, which composition possesses a pH above 7.0 and is otherwise characterized by the following particulars: it comprises a product of polymerization, under alkaline conditions, of formaldehyde, urea and furfuryl alcohol; the said composition exists in the form of a liquid which is practically free of water, and it has an alkaline content which is an hydroxide or an alkali metal carbonate, diethanolamine or triethanolamine or a mixture of two or more of these components. The mixture is heated at a temperature of 100° to 110° for a sufficient time for polymerization to take place. The invention's object of producing sand molds and cores consists of forming a mixture of resinous composition characterized by molding the mixture to the desired form and heating for a sufficient time to cure the resin at a temperature above 90°, and more advantageously from 175° to 205°. A new proportion of urea is added at the same time as a catalyst is added.

MANUFACTURING METHOD FOR CRYSTALLINE POLY (VINYL ETHER) GROUPS. 25 June 63, 20p. 4988/60 Japan.
Order from INT $60.00

Trans. of Japanese patent 4988/60 by Hercules Powder Comp., USA, filed 19 Apr 57.

DESCRIPTORS: *Polyvinyl alcohol, *Ethers, Crystallization, *Vinyl plastics.

MANUFACTURING METHOD FOR FINE-GRANULAR POLYVINYL ACETAL AND POLYVINYL KETAL. 18 June 63, 6p. 8743/62 Japan.
Order from INT $16.50

Trans. of Japanese patent 8743/62 by Kanegafuchi Booseki Co. Ltd., filed 12 Apr 60.

DESCRIPTORS: *Vinyl plastics, Acetals, Manufacturing methods, Particles, *Acetal plastics.

MANUFACTURING METHOD FOR POLYAMIDE-SYSTEM COMPOUNDS. 14 June 63, 5p. 9997/56 Japan.
Order from INT $15.00

Trans. of Japanese patent 9997/56 by Toho Rayon Co. Ltd., filed 25 June 54.

DESCRIPTORS: *Amides, *Polymers, Manufacturing methods, *Polyamide plastics.

MANUFACTURING METHOD FOR VINYL CHLORIDE POLYMER AND ITS COPOLYMER. 19 Oct 62, 9p. 2996/62 Japan.
Order from INT $29.50

Trans. of Japanese patent 2996/62 by Nisshin Kagakukogyo Co. Ltd., filed 4 Jan 59.

DESCRIPTORS: *Vinyl chlorides, Polymers, Copolymerization, Manufacturing methods, *Polyvinyl chloride.

MANUFACTURING PROCESS FOR ETHYLENE POLYMER. 18 June 63, 4p. 3484/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 3484/62 by Sumitomo Kagaku Kogyo Co. Ltd., filed 21 Jan 60.

DESCRIPTORS: *Ethylenes, Polymers, Manufacturing methods, *Polyethylene plastics.

METHOD FOR GRAFT POLYMERIZING OF CELLULOSE. 18 June 63, 7p. 3300/62 Japan.
Order from INT $19.50

Trans. of Japanese patent 3300/62 by Nippon Hooshasen Koobunshi Kenkyu Kyskai Inc., filed 6 Jan 59.

DESCRIPTORS: *Cellulose, *Polymerization, *Graft polymers.

METHOD FOR MANUFACTURE OF HIGH POLYMERIZATION-DEGREE POLYAMIDES. 18 June 63, 5p. 13794/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 13794/62 by Toyo Rayon Kabushiki Kaisha, filed 31 Aug 60.

DESCRIPTORS: *Polyamide plastics, Polymerization, Manufacturing methods.

METHOD FOR MANUFACTURE OF MACRO-MOLECULAR SUBSTANCES. 18 June 63, 16p. 13897/62 Japan.
Order from INT $46.50

Trans. of Japanese patent 13897/62 by Kiichiro Sugino and 2 others of 50 Yaraicho, filed 29 Dec 59.

DESCRIPTORS: Molecular association, *Polymers, Manufacturing methods.

METHOD FOR MANUFACTURE OF MACRO-MOLECULAR SUBSTANCES. 18 June 63, 12p. 13898/62 Japan.
Order from INT $34.50

Trans. of Japanese patent 13898/62 by Kiichiro Sugino and 2 others of 50 Yaraicho, filed 23 Mar 60.

DESCRIPTORS: Molecular association, *Polymers, Manufacturing methods.

METHOD FOR MANUFACTURE OF MACRO-MOLECULAR SUBSTANCES. 18 June 63, 9p. 13899/62 Japan.
Order from INT $25.50

Trans. of Japanese patent 13899/62 by Kiichiro Sugino and 2 others of 50 Yaraicho, filed 2 Apr 60.

DESCRIPTORS: Molecular association, *Polymers, Manufacturing methods.

METHOD FOR REGULATION OF THE MOLECULAR WEIGHT OF MONO OLEFIN POLYMERS. 18 June 63, 8p. 9839/62 Japan.
Order from INT $22.50

Trans. of Japanese patent 9839/62 by Asahi Kasei Kogyo Co., Ltd., filed 15 Apr 60.

DESCRIPTORS: *Ethylenes, Polymers, Molecular weight, *Polyethylene plastics.

METHOD FOR REGULATION OF THE MOLECULAR WEIGHT OF MONOOLEFINPOLYMERS. 18 June 63, 8p. 9841/62 Japan.
Order from INT $22.50

Trans. of Japanese patent 9841/62 by Asahi Kasei Kogyo Co., Ltd., filed 15 Apr 60.

DESCRIPTORS: *Ethylenes, Polymers, Molecular weight, *Polyethylene plastics.

A METHOD FOR THE PREPARATION OF PLASTICS FROM POLYMERIZATION PRODUCTS OF VINYL CHLORIDE AND MIXTURES CONTAINING PREDOMINANTLY VINYL CHLORIDE, WITH THE USE OF PLASTICIZERS. [1963] 3p.
Order from ATS $6.00 ATS-83Q70DU

Trans. of Dutch patent 46,908, appl. no. 82,414, filed 7 May 37, opened for public inspection 1 May 39, by Gesellschaft fllr Elektrotechnische Erzeugnisse mit Beschrankter Haftung, Berlin (priority from 18 May 36, Germany).

DESCRIPTORS: Plastics, *Polyvinyl chloride, Preparation, *Vinyl chloride, Mixtures, Polymerization, *Plasticizers.

METHOD OF PREPARATION OF HARDENABLE SUBSTANCES BY MULTI-ESTERIFICATION. [1963] 18p.
Order from OTS or SLA $1.60 63-18299

Trans. of Belgian patent 616,311, filed 11 Apr 62, by Vianova Kunstharz AG. (priority: 12 Apr 61, Austria).

DESCRIPTORS: *Esterification, Additives, *Maleic anhydride, *Ethylenes, Diene syntheses, Substitution reactions, Hardening, *Plastic coatings, *Plastic films, *Amino plastics, *Melamine.

The invention takes advantage of very easily esterification products that are infusible and insoluble by adjusting the proportions carefully and by choosing a suitable starting material fixing the maleic anhydride. The invention concerns the prep-

aration and the use of mixtures of a compound of addition and a polyhydroxol compound, which form, during a separate stage by a progressive addition esterification of anhydride radicals alone or by an esterification of freed carboxyl radicals, or by the 2 processes, a resinous material that is synthetic, insoluble, and infusible.

METHOD OF PRODUCING LOW-SETTING POINT POLYPROPYLENE. [21 Feb 63] 8p.
Order from OTS or SLA $1.10 63-18339

Trans. of French patent 1,296,879, by Hibernia-Chemie, Germany, appl. 3 Aug 61, granted 14 May 62.

DESCRIPTORS: *Polyethylene plastics, Production, *Ethylenes, *Propenes, Copolymerization, Ziegler catalysts, Propanols.

The process for producing polypropylene with a low setting point is characterized in that measured quantities of ethylene are introduced into the polymerization vessel before, during and after polymerization, in one or more batches. The proportion of ethylene does not exceed 10% by weight of the quantity of propylene to be polymerized. During copolymerization, the concentration of ethylene and of propylene is adjusted such that the copolymer formed contains 30-70% ethylene and 70-30% propylene. Before post-treatment with alcohol, the hydrocarbon-soluble fractions may be removed. Other olefins which form low setting point copolymers may be used instead of ethylene or in addition to it. (Author)

POLYMERIZATION OF VINYL CHLORIDE AND THE MIXTURE COMPRISING VINYL CHLORIDE AND OTHER VINYL COMPOUNDS. 13 June 63, 7p. 5398/54 Japan.
Order from INT $21.00

Trans. of Japanese patent 5398/54 by Nippon Carbide Kogyo Co., Ltd., filed 15 Feb 52.

DESCRIPTORS: *Vinyl chlorides, Polymerization, Vinyl radicals, *Polyvinyl chloride, Aliphatic compounds.

POLYMERIZING METHOD FOR FORMALDEHYDE BY IONIZING RADIATION. 18 June 63, 4p. 3295/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 3295/62 by Nippon Hooshasen Koobunshi Kenkyu Kyokai Inc., filed 15 Aug 59.

DESCRIPTORS: *Formaldehyde, *Polymerization, Radiation, Ionization, *Radiation chemistry, *Acetal plastics.

POLYMERIZING METHOD FOR ISOCYANATES. 18 June 63. 4p. 15932/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 15932/62 by Nippon Hoshasen-Kobunshi Kenkyu-Kyokai Inc., filed 16 Sep 60.

DESCRIPTORS: Cyanates, *Isocyanate plastics, Polymerization.

POLYMERIZING PROCESS FOR LACTAM. 20 June 63 5p. 892/61 Japan.
Order from INT $15.00

Trans. of Japanese patent 892/61 by Toyo Rayon Co. Ltd., filed 29 July 58.

DESCRIPTORS: *Amines, *Hydroxides, Anhydrides, Polymerization, *Lactams, *Polyamide plastics, *Nylon.

PROCEDURE TO CARRY OUT A CHEMICAL REACTION WITH THE AID OF A ZIEGLER CATALYST. [1963] 7p
Order from OTS or SLA $1.10 63-18859

Trans. of French patent 1.295.737, P. V. no. 868.509, internat. cl. B 01j-C08 f [to] Stamicarbon N.V. (Netherlands) requested 20 Jul 61, granted 2 May 62, pub. 23 Nov 62 (pat. request deposited in Netherlands 20 Jul 60, no. 254.024).

DESCRIPTORS: *Ziegler catalysts, *Polymerization, *Polyethylene plastics, Chemical reactions, Chemical reactions, Chemical bonds.

The invention concerns a procedure to carry out a chemical reaction in which a Ziegler catalyst is introduced into the reaction area and which presents the following feature: (1) The concentration of uncoupled electrons is measured and the reaction is regulated so that this concentration has the desired value; (2) For the polymerization of materials containing terminal carbon-carbon double bonds, the concentration of uncoupled electrons in the reaction area is measured; (3) In addition, one measures the concentration of the uncoupled electrons which are found in the liquid containing the Ziegler catalyst, this liquid being introduced into the reaction area. (Author)

PROCESS FOR MANUFACTURE OF FORMALDEHYDE POLYMER. 18 June 63, 5p. 11746/62 Japan.
Order from INT $15.00

Trans. of Japanese patent 11746/62 by Toyo Rayon Co., Ltd., filed 10 Mar 60.

DESCRIPTORS: *Formaldehyde, Polymers, Manufacturing methods, *Acetyl plastics.

PROCESS FOR POLYMERIZATION OF ACETALDEHYDE AND PROPIONALDEHYDE BY VIRTUE OF IONIZING RADIOACTIVE RAYS. 18 June 63, 6p. 13893/62 Japan.
Order from INT $16.50

Trans. of Japanese patent 13893/62 by Nippon Hooshasen Koobunshi Kenkyukyookai Inc., filed 25 June 60. Another trans. is available from SA $16.00 as SA Code-P-116, July 63, 6p.

DESCRIPTORS: *Acetaldehydes, Propyl radicals, *Aldehydes, *Radiation chemistry, *Polymerization, *Vinyl plastics.

PROCESS FOR POLYMERIZATION OF TRIOXANE BY IONIZING RADIOACTIVE RAYS. 20 June 63, 4p. 17393/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 17393/62 by Nippon Hooshasen Koobunshi Kenkyu-Kyokai Inc., filed 12 July 60.

DESCRIPTORS: *Methanes, *Oxides, Polymerization, Radioactivity, Ionization, *Radiochemistry, *Acetyl plastics, Formaldehyde.

PROCESS FOR POLYMERIZATION OF VINYL COMPOUNDS. 14 June 63, 5p. 5894/56 Japan.
Order from INT $13.50

Trans. of Japanese patent 5894/56 by Sumitomo Kagaku Kogyo Co. Ltd., filed 3 Sep 53.

DESCRIPTORS: *Organic compounds, *Vinyl radicals, Polymerization, Vinyl plastics.

PROCESS FOR REGULATION OF MOLECULAR WEIGHT OF POLYMERS OF MONO-OLEFIN. 18 June 63, 11p. 9838/62 Japan.
Order from INT $31.50

Trans. of Japanese patent 9838/62 by Asahi Kasei Kogyo Kabushiki Kaisha, filed 15 Apr 60.

DESCRIPTORS: *Ethylenes, Polymers, Molecular weight, *Polyethylene plastics.

PROCESS FOR REGULATION OF MOLECULAR WEIGHT OF POLYMERS OF MONO-OLEFIN. 18 June 63, 11p. 9840/62 Japan.
Order from INT $33.00

Trans. of Japanese patent 9840/62 by Asahi Kasei Kogyo Kabushiki Kaisha, filed 15 Apr 60.

DESCRIPTORS: *Ethylenes, Polymers, Molecular weight, *Polyethylene plastics.

PROCESS FOR THE MANUFACTURE OF DENATURED HIGH-MOLECULAR-WEIGHT POLYMERS OF FORMALDEHYDE. 18 June 63, 12p. 10941/62 Japan.
Order from INT $36.00

Trans. of Japanese patent 10941/62 by Nippon Hooshasen Koobunshi Kenkyu Kyokai Inc., filed 5 Apr 60. Another trans. is available from SA $19.00 as SA Code-P-196, July 63, 12p.

DESCRIPTORS: *Formaldehyde, Polymers, Molecular weight, Manufacturing methods, *Acetal plastics.

TREATING METHOD FOR POLYVINYL-ALCOHOL FIBER OR FILM. 25 June 63, 9p. 8340/61 Japan.
Order from INT $25.50

Trans. of Japanese patent 8340/61 by Nihon Hooshasen Koobunshi Kenkyu Kyokai, filed 6 Feb 59.

DESCRIPTORS: *Fibers (Synthetic), *Films, *Polyvinyl alcohol.

Amelongen, Gerit Jan Van and Pras, Franciscus Johanes Fredericas Van der.
METHOD OF MANUFACTURING CATALYSTS USED FOR POLYMERIZATION OF ETHYLENIC UNSATURATED HYDROCARBONS. July 63, 26p. 1 ref.
Order from SA $19.00 SA Code-P-195

Trans. in manuscript of published Japanese patent 7738/1962, cl. 13-F-15 (26-B-11) (26-B-21) appl. no. 35697/1959 filed 17 Nov 59, pub. 10 July 62, priority claimed: 19 Nov 58 (Netherlands) by Shell Internationale Research Merchappy N. V., Netherlands.

DESCRIPTORS: *Polyethylene plastics, Hydrocarbons, *Propenes, Polymerization, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals, *Titanium compounds, Halides, *Chlorides, Manufacturing methods.

Akazome, G[iichi] Sakai, S[hizuyoshi] and Murai, K[oichi]
COPOLYMERIZATION OF HIGHER ALKYL VINYL ETHERS, VIII. SYNTHESIS AND PROPERTIES OF COPOLYMERS WITH VINYL ALCOHOL. [1963] 9p.
Order from ATS $11.50 ATS-81Q69J

Trans. of Kobunshi Kagaku (Japan) 1960, v. 17, [no. 186] p. 621-627.
Another trans. is available from SLA $1.60 as 61-16537 [1961] 14p.

DESCRIPTORS: *Vinyl plastics, Vinyl radicals, Alkyl radicals, Ethers, Acetates, Copolymerization, *Polyvinyl alcohol, Mechanical properties, Synthesis (Chemistry).

For abstract see Technical Translations 6: 395, 1961. (See also 62-12403)

Anderson, Arthur W., Bro, Manville I. and others.
METHOD OF MANUFACTURING HYDROCARBON POLYMER. July 63, 14p.
Order from SA $22.00 SA Code-P-211

Trans. in manuscript of published Japanese patent 42/1960, cl. 26-B-11 (13-F-1) appl. no. 1692/1956 filed 25 Jan 56, pub. 5 Jan 60, date of convention: 25 Jan 55, 1 Feb 55 (U.S.A.), by E. I. du Pont de Nemours & Co., U.S.A.

DESCRIPTORS: *Polyethylene plastics, Manufacturing methods, *Ethylenes, Polymerization, Additives, *Propenes, *Butenes, *Acetylenes, Styrenes, Stilbenes, Cyclohexenes, Butadienes, Metalorgainc compounds, *Ziegler catalysts, *Titanium compounds, Chlorides, *Alkali metal compounds, Acetyl radicals.

Anderson, Arthur William, Boxter, Wallen Nesmith and others.
METHOD OF MANUFACTURING POLYETHYLENE AND ITS COPOLYMER. July 63, 32p. 9 refs.
Order from SA $22.00 SA Code-P-214

Trans. in manuscript of published Japanese patent 41/1960, cl. 26-B-11 (26-B-121) (13-F-1) appl. no. 21978/1955 filed 16 Aug 55, pub. 5 Jan 60, priority claimed: 16 Aug 54, 3 cases; 30 Aug 54, 2 cases; 21 Sep 54; 22 Nov 54, U.S.A., by E. I. Du Pont de Nemours & Co., U.S.A.

DESCRIPTORS: *Polyethylene plastics, Manufacturing methods, *Ethylenes, Polymerization, *Styrenes, Methyl radicals, Bromides, Chlorides, Copolymerization, Organic solvents, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, *Lithium compounds, *Tin compounds, *Cadmium compounds, Alkyl radicals, Titanium compounds, Zirconium compounds, Vanadium compounds, Tantalium compounds, Molybdenum compounds, Tungsten compounds, Halides.

Azuma, Keiichi and Takahashi, Kunpei.
METHOD OF PRODUCING α-OLEFIN HIGH POLYMER. July 63, 12p. 1 ref.
Order from SA $19.00 SA Code-P-200

Trans. in manuscript of published Japanese patent 12141/1962, cl. 26-B-11 (13-F-13) appl. no.30701/1960 filed 7 July 60, pub. 27 Aug 62, by Tokuyama Soda Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, Propenes, Ethylenes, Polymerization, Copolymerization, Metalorganic compounds, *Ziegler catalysts, Aluminum compounds, Alkyl radicals, Group IV elements, Group V elements, Group VI elements, *Titanium compounds, Halides, *Chlorides preparation, *Cyclopentadiene.

Daimon, Hiroshi, Kamio, Kosaku and Kojima, Shinpei.
A NEW METHOD OF POLYMERIZING OLEFIN OXIDE. July 63, 6p.
Order from SA $16.00 SA Code-P-188

Trans. of published Japanese patent 13346/1962, cl. 26-C-115 (13-F-1) appl. no. 24526/1960 filed 14 May 60, pub 7 Sep 62, by Nihon Carbide Industry

DESCRIPTORS: *Epoxy plastics, *Ethylene oxide, *Propenes, *Hexenes, Oxides, Polymerization, Catalysts, Metalorganic compounds, *Ziegler catalysts, *Zinc compounds, Ethyl radicals, Iron compounds, Copper compounds, Aluminum compounds, Zirconium compounds, Tin compounds, Manganese compounds, Chlorides

Furukawa, Junji, Saegusa, Takeo, and Mitsuse, Takatoshi.
A POLYMERIZATION METHOD OF DIKETENE. July 63, 4p.
Order from SA $16.00 SA Code-P-184

Trans. of published Japanese patent 10091/1962 cl. 26 C 2, appl. no. 28843/1960 filed 27 June 60, pub. 2 Aug 62, by Nippon-Kagaku-Seni-Kenkyusho.

DESCRIPTORS: *Ketenes, Polymerization, *Catalysts, Group II elements, *Mercury compounds, Magnesium compounds, Cadmium compounds, Chlorides, Bromides, Hydrates.

Furukawa, Junji, Tsuruta, Teiji, and Morimoto, Kazuhisa.
NEW METHOD FOR POLYMERIZATION OF VINYL COMPOUND. July 63, 5p. 5 refs.
Order from SA $16.00 SA Code-P-171

Trans. of published Japanese patent 3289/1962, cl. 26-B-012 (26-B-121) (26-B-151) (26-B-211) appl. no. 8037/1957 filed 2 Apr 57, pub. 1 June 62, Nihon Kagaku Seni Kenkyujo.

DESCRIPTORS: *Vinyl plastics, *Styrenes, *Butadienes, *Acrylonitriles, Polymerization, Metalorganic compounds, *Catalysts, *Sodium compounds, Alkyl radicals, *Titanium compounds, Alkoxides.

Glavati, O. L. and Polak, L. S.
PREPARATION OF STEREOSPECIFIC POLYMERS BY α-IRRADIATION OF INCLUSION COMPLEXES (Poluchenie Stereospetsificheskikh Polimerov α-Obluchieniem Soedinenii Vklyucheniya) tr. by B. Ribush. [1963] [14]p. (foreign text included) 2 refs. [CSIRO] Trans. no. 6196.
Order from OTS or SLA $1.60 63-19970

Trans. of Neftekhimiya (USSR) 1962, v. 2, no. 3, p. 318-323.

DESCRIPTORS: *Polymers, *Dienes, Preparation, *Clathrate compounds, *Butadienes, Methyl radicals, *Cyclohexadienes, *Thiourea, Polymerization, *Radiation chemistry, Stereochemistry, Gamma rays.

A study was made of radiation polymerization of channel inclusion complexes on the example of dimethyl butadiene and cyclohexadiene in thiourea. It was demonstrated that the resulting polymer is stereoregular, that its melting points is high and that its molecular weight ranges from 15.000 to 45.000. The particular characteristic of radiation polymerization of channel inclusion complexes were studied. (Author)

Gol'danskii, V. I. and Khrapov, V. V.
A METHOD OF NUCLEAR SPOT-WELDING AND SOME OF ITS USES (Metod Yadernoi Tochechnoi Svarki i Nekotorye Ego Primeneniya). [1963] [7]p. 5 refs.
Order from OTS or SLA $1.10 AEC-tr-5577

Trans. of mono. [International Atomic Energy Agency] Symposium on Radiation Damage in Solids and Reactor Materials, Venice, 7-11 May 62. Proceedings, v. 2, 1962, p. 271-276 (STI/PUB/56).

DESCRIPTORS: *Halocarbon plastics, *Polyethylene plastics, *Styrene plastics, *Rubber, *Polyamide plastics, *Welding, *Spot welding, *Boron, *Lithium, Nuclear reactions, *Thermal neutrons, Neutron bombardment, *Nuclear industrial applications.

By utilizing the ability of B^{10} and Li^6 nuclei to produce a nuclear reaction under the action of thermal neutrons, the distinctive effect of spotwelding two materials was obtained. The results of experiments involving the radiation welding of series of pairs of polymeric materials in the presence of compounds containing boron and lithium by irradiating in the IRT-1000 reactor channel are described. The spot-welding of pairs like teflon-polyethylene, polystyrene-polystyrene, and so on was attempted, and a tighter linking of the rubber-caprone fabric pair. (Author)

Gunder, O. A. and Livshits, I. M.
AN INVESTIGATION INTO THE BEST CONDITIONS FOR THE HEAT TREATMENT OF POLYCAPROLACTAM COMPONENT PARTS. [1963] 8p.
Order from ATS $8.50 ATS-75Q70R

Trans. of Plasticheskie Massy (USSR) 1962, no. 9, p. 24-28.

DESCRIPTORS: *Lactams, *Plastics, *Polymers, *Heat treatment.

Hackhel, Ro. H. and Sacks, W.
POLYOLEFIN TREATED AGAINST FOGGING. [1963] 17p. 2 refs.
Order from OTS or SLA $1.60 63-18261

Trans. of Belgium patent 615,684, filed 28 Mar 62 (priority: 29 Mar 61, U.S.A.).

DESCRIPTORS: *Polyethylene plastics, Films, Surfaces, Vapor, Humidity, Condensation, Containers, *Antifogging agents, *Stearates.

The invention involves a polyethylene or polypropylene containing from 0.5 to 2.0 per cent of anti-fogging agent. The anti-fogging agent is sorbitan monostearate, sorbitan monopalmitate, or sorbitan distearate.

Isojima, Toshizo, Yamamoto, Muraji and others.
POLYOLEFINE COMPOSITIONS. July 63, 8p.
Order from SA $16.00 SA Code-P-175

Trans. of published Japanese patent 11524/1962, cl. 25-H-31 (25-H-05) (25-A-13) appl. no. 40492/1960 filed 30 Sep 60, pub. 30 Aug 62, by Mitsubishi Rayon Co.

DESCRIPTORS: *Polyethylene plastics, Stabilization, *Propenes, *Ethylenes, Additives, Benzine derivatives, Anilines, Butyl radicals, Ethyl radicals.

Kawai, W.
COPOLYMERIZATION OF PROPYLENE WITH ACRYLONITRILE. [1963] 6p.
Order from ATS $9.25 ATS-96Q69J

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66, no. 2, p. 249-252.

DESCRIPTORS: *Polyethylene plastics, *Acrylic resins, *Propenes, *Acrylonitriles, Copolymerization.

Kolobov, E. I.
CONTRACTION OF ORIENTED POLYMERS DURING ANNEALING. [1963] 6p. 5 refs.
Order from OTS or SLA $1.10 63-18356

Trans. of Plasticheskie Massy (USSR) 1962, no. 6, p. 62-63.

DESCRIPTORS: *Plastic films, *Polyethylene plastics, *Halocarbon plastics, Fluorocarbons, Heat treatment, *Annealing, Physical properties, *Crystal structure, Transformations.

At each temperature, there is a definite amount of isothermal contraction in the crystalline polymer which was stretched at a lower temperature until a neck was formed in the direction of the fiber length. The isothermal contraction of stretched crystalline polymers increases with increasing temperature. The increase in the isothermal contraction with increasing temperature can be interpreted as a result of the irreversible decrease in the degree of oriented crystallinity. (Author)

Korotkov, A. A., Mitsengendler, S. P., and Aleev, K. M.
EFFECT OF DIETHYLETHER ON THE COPOLYMERIZATION PROCESS OF BUTADIENE WITH STYRENE. [1963] 7p. 10 refs.
Order from OTS or SLA $1.10 63-18412

Trans. of Vysokomolekulyarnye Soed[ineniya] (USSR). 1960, v. 2 [no. 12] p. 1811-1816.
Another trans. is available from PP in Polymer Science USSR, v. 3, no. 3, $100.00/year.

DESCRIPTORS: *Butadienes, *Styrenes, *Ethyl ethers, Vinyl radicals, Copolymerization, Addition reactions, Catalysts, *Lillium compounds, Butyl radicals.

The effect of diethyl ether on the polymerization kinetics of divinyl and styrene in benzene at 30 C and on the composition of the resultant polymers was investigated. Addition of 0.05 mole/1 ether increases the content of styrene units in the copolymer from 13 to 25%, maximum content (32%) being obtained in the case of 0.6 mole/1 ether. Further increase in ether content has no effect on the copolymer composition. It was assumed that at high ether concentrations all active polymerization centers are solvated by ether. The values of the monomer reactivity ratios obtained in the presence of large amounts of ether are: $\alpha_2 = 0.11$; $\beta_2 = 1.78$. The relation of the two values ($\alpha_2 \neq 1/\beta_2$) shows that the ether solvated active centers are not of equivalent activities and that on copolymerization in the presence of ether the activity of divinyl is higher than that of styrene. The polymerization rate is considerably augmented in the presence of ether and the rates of separate polymerization of the monomers approach each other. The effect of the ether on the monomer reactivity ratio is explained by the lowering of the solvating role of the monomer (divinyl) in the presence of complexating additions. (Author)

Kotlyarevskii, I. L. and Fisher, L. B.
METHOD OF OBTAINING A POLYMER BASED ON p-DIETHYNYLBENZENE (Sposob Polucheniya Polimera na Osnove p-Dietinilbenzola) tr. by Marcel I. Weinreich 31 Oct 62, 3p.
Order from OTS or SLA $1.10 SCL-T-446

Trans. of Russian author's certificate 140,579, cl. 39c, 25_{05}, subscription group 160, submitted 10 June 60 under no. 670,103/23 (#Byulleten' Izobretenii (USSR) 1961, no. 16, p. 1-2).

DESCRIPTORS: *Phenolic plastics, *Semiconductors, *Acetylenes, *Benzene derivatives, Polymerization, Oxidation, Condensation reactions, Solvents, Alcohols, Ethylene oxide, Pyridines, Copper catalysts.

The method of obtaining a polymer on the basis of p-diethynylbenzene is distinguished by the fact that, in order to obtain a polymer with semiconducting properties, the p-diethynylbenzene is subjected to an oxidizing polycondensation in an alcoholic or dioxane (diethylene dioxide), or else in a pyridine medium, in the presence of well-known catalysts, for instance cuprous chloride. (Author)

Kurozu, Kyoji.
METHOD OF MANUFACTURING SHOCK RESISTANT POLYMER COMPOSITIONS OF VINYL CHLORIDE POLYMER SERIES. July 63, 8p.
Order from SA $19.00 SA Code-P-201

Trans. of published Japanese patent 10069/1962, cl. 25-H-351 (25-H-51) appl. no. 11181/1961 filed 1 Apr 61, pub. 2 Aug 62, by Nisshin Kagaku Kogyo Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, *Polyvinyl chloride, Manufacturing methods, *Vinyl chlorides, Polymerization, *Ethylenes, Chlorination, *Chlorocarbons, Copolymerization.

Lazar, M., Pavlinets, I. and others.
OZONIZATION (OZONATION) OF ATACTIC POLYPROPYLENE (Ozonirovanie Atakticheskogo Polipropilena) tr. by Marcel I. Weinreich. 8 Mar 63 [10]p. 6 refs.
Order from OTS or SLA $1.10 SCL-T-469

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 6, p. 943-947.

DESCRIPTORS: *Plastic films, *Polyethylene plastics, Degradation, Oxidation, *Ozone, *Peroxides, *Hydroperoxides, Reaction kinetics.

The effect of ozone on the accumulation of peroxides in atactic polypropylene films was investigated over the temperature range 0° to 60°. It was found that a given peroxide concentration is established at a given temperature. The oxidation rate depends upon the square root of the ozone concentration. This indicates that ozone acts as an initiator of the oxidation process. Polymer peroxides are formed in addition to the hydroperoxides at the initial phases of the reaction, predominantly on the film surface. The peroxides cause the temporary crosslinking and insolubility (in chloroform and decalin) of some of the specimens. Later the peroxides decompose with the concurrent formation of hydroperoxides. Ozone was observed to accelerate the reaction considerably even at room temperature. The surface of the oxidized films is an effective kinetic factor. The polymer suffers less degradation than on oxidation with oxygen, the degradation depending upon the concentration of the accumulated peroxide groups. (Author)

Lokshin, R. F.
WELDING OF THERMOPLASTIC MATERIALS (Svarka Termoplastov). [1963] [20]p. (foreign text included) 17 refs.
Order from OTS or SLA $1.60 63-18290

Trans. of Plast[icheskie] Massy (USSR) 1961, no. 9, p. 30-35.

DESCRIPTORS: *Thermoplastics, *Thermal joining, *Welding, *Bonding, Heaters, Gases, *Heat transfer, *Ultrasonic radiation, *Induction heating, *Infrared radiation, *Friction, *Sintering, *Fillers, Extrusion

A state-of-the-art survey which includes the following topics: General problems; contact welding; welding by heating from a gaseous heat transfer medium; welding in a high-frequency field; ultrasonic welding; welding by infrared heating; friction welding; welding by sintering; and, welding with the aid of an extruded filler.

Lukovnikov, A. F.
CONFERENCE ON THE AGEING AND STABILISATION OF POLYMERS [MOSCOW, 14-17 NOV 61]. [1963] 3p. [DSIR] NLL M. 10051.
Order from OTS or SLA $1.10 63-23351

Trans. of Plasticheskie Massy (USSR) 1962, no. 4, p. 76-78.

DESCRIPTORS: *Conferences, *Polymers, Plastics, *Aging (Materials), Stabilization, Reports.

Matsuda, Yoshiro, Nakahara, Yoshiro and others.
METHOD OF PRODUCING AROMATIC ACID ANHYDRIDE POLYMER. July 63, 11p. 2 refs.
Order from SA $19.00 SA Code-P-206

Trans. in manuscript of published Japanese patent 10944/1962, cl. 26-D-0, appl. no. 2644/1960 filed 28 Jan 60, pub. 13 Aug 62, by Dai-Nihon Celluoid Co., Ltd.

DESCRIPTORS: *Polyester plastics, Carboxylic acids, Anhydrides, Chlorides, *Phthalic acids, Phenyl radicals, *Ethanes, *Propanes, *Ethyl ethers, Polymerization.

Nakanishi, Ryoji and Tamai, Isamu.
PROCESS FOR THE PREPARATION OF POLYESTER. July 63, 6p. 2 refs.
Order from SA $16.00 SA Code-P-179

Trans. of published Japanese patent 11546/1962, cl. 26-D-6, appl. no. 34434/1960 filed 12 Aug 60, pub. 20 Aug 62, by Toyo Rayon Co., Ltd.

DESCRIPTORS: *Polyester plastics, Preparation, Synthesis (Chemistry), *Ethylenes, *Glycols, *Phthalic acids, Esterification, Organic solvents.

Nishio, Minoru and Atarashi, Yuji.
METHOD OF PRODUCING OLEFIN POLYMER MOLDINGS OF GOOD DYEING AFFINITY. July 63, 15p.
Order from SA $19.00 SA Code-P-210

Trans. in manuscript of published Japanese patent 15466/62, cl. 25-H-311 (25-H-09) (42-D-21) appl. no. 14299/1959 filed 4 May 59, pub. 28 Sep 62, by Toyo Rayon Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, Production, *Ethylenes, *Propenes, Additives, Fatty acids, *Stearic acids, Segacic acid, Laurates, Calcium compounds, Barium compounds, Potassium compounds, Zinc compounds, Methyl radicals, Stearates, *Sulfonates, *Amines, *Nitriles, *Dyes.

Nocka, Carlo, Leary, Robert F. and others.
METHOD OF MANUFACTURING ETHYLENE-PROPYLENE COPOLYMER. July 63, 55p.
Order from SA $22.00 SA Code-P-215

Trans. in manuscript of published Japanese patent 1839/1960, cl. 26 B 11, appl. no. 1638/1957 filed 26 Jan 57, pub. 8 Mar 60 (convention date; 31 Jan 56, U. S. A.) by Esso Research & Engineering Co., U. S. A.

DESCRIPTORS: *Polyethylene plastics, Manufacturing methods, *Ethylenes, *Propenes, Copolymerization, Catalysts, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals, Ethyl radicals, Halides, *Titanium compounds, Chlorides,

Okamura, Seizo and Manabe, Akinobu.
A METHOD FOR TIGHTLY COMBINING POLYMERIZABLE SUBSTANCES WITH POLYMERS. July 63, 7p.
Order from SA $16.00 SA Code-P-173

Trans. of published Japanese patent 8993/1962, cl. 26-B-11 (26-B-022) (48-D-0) (25-N-231) appl. no. 39278/1959 filed 15 Dec 59, pub. 23 July 62, by Nippon Rayon Co.

DESCRIPTORS: *Polyethylene plastics, Impregnation, *Acrylic acid esters, *Vinyl radicals, *Ethylenes, *Graft polymers, Solvents, Benzene.

Okamura, Seizo, Nakashio, Seizo, and Hayashi, Koichiro.
METHOD OF MAKING MODIFIED HIGH MOLECULAR WEIGHT POLYMER OF FORMALDEHYDE. July 63, 12p. 5 refs.
Order from SA $19.00 SA Code-P-196

Trans. in manuscript of published Japanese patent 10941/1962, cl. 26-C-118.1 (26-C-115) (26-B-1) (26-B-11) (136-G-21) appl. no. 20248/1960 filed 5 Apr 60, pub. 13 Aug 62, by Nihon Hoshasen Kobunshi Kenkyu Kyokai and Sumitomo Chemical Industry Co., Ltd.

DESCRIPTORS: *Acetal plastics, *Formaldehyde, *Butenes, *Styrenes, *Acrylonitriles, *Acrylic acid esters, *Acrylamides, *Vinyl radicals, Ethers, *Ethylene oxide, Polymerization, *Radiation chemistry.

Peborgh, Robert van.
CLOSING SYSTEMS OF PLASTIC CONTAINERS. [7 Feb 63] [4]p.
Order from OTS or SLA $1.10 63-18273

Trans. of French patent 1,142,720, gr. 20, cl. 4, appl. 16 Feb 56, granted 1 Apr 57, pub. 20 Sep 57.

DESCRIPTORS: *Containers, *Plastics, *Fastenings, Seals (Stoppers), *Plastic seals.

The invention involves a closing system for plastic containers consisting of a projecting part of the container wall, which when separated from the rest of the wall forms a stopper. The stopper can be placed in the right or inverted position into the bottle mouth. This closing system is applicable only for container walls made from flexible or semi-flexible plastics. In the hollow form the stopper can be calibrated for use as a measuring stopper. The container neck can have either a widened shape, or a cylindrical or conical one, with a projecting bulge into which the stopper fits.

Sandersom, E. G. and Maloney, M. A.
REGENERATED CELLULOSE SHEET. [8 Mar 63] 14p. 2 refs.
Order from OTS or SLA $1.60 63-18337

Trans. of German patent 1,133,542, appl. 9 Nov 56, pub. 19 July 62, by British Cellophane Ltd. (priority claimed: 9 Nov 55 (no. 32,078) Gt. Brit.).

DESCRIPTORS: *Plastic films, *Cellulosic plastics, Processing, *Amines, Salts, *Amino plastics, Melamine-formaldehyde resins, Urea formaldehyde resins.

The invention involves a method of producing sheets or films from regenerated cellulose with improved surface properties by treatment with water-soluble salts of aliphatic amines and subsequent drying, characterized in that the treatment is carried out preferably while the regenerated cellulose is still in the gel state, with aqueous solutions of salts of aliphatic diamines of the general formula: $RR_1N(CH_2)_n$-NR_2R_3, wherein R is saturated or mono- or di-unsaturated alkyl with 8-33 C atoms in a straight chain; R_1, R_2, and R_3 are H, CH_3 or C_2H_5 or alkyl having 3-7 C atoms in a straight or branched chain, or alkyl as R: and R_1, R_2 and R_3 may be different; and n is an integer, especially 2-10. The treatment may be carried out in the presence of a partially condensed melamine-formaldehyde resin, a urea-formaldehyde resin, a polyalkylene-imine or colloidal SiO_2 or Al_2O_3. (Author)

Shimokawa, Yoshiharu.
METHOD FOR THE POLYMERIZATION OF UNSATURATED COMPOUNDS. July 63, 5p.
Order from SA $16.00 SA Code-P-194

Trans. of published Japanese patent 14633/1962, cl. 26-B-012 (26-B-11) (26-B-121) (13-F-1) appl. no. 998/1960 filed 12 Jan 60, pub. 20 Sep 62.

DESCRIPTORS: *Polyethylene plastics, *Styrene plastics, *Butadienes, Polymerization, *Catalysts, *Nitrogen compounds

Takatsuchi, Yukichi, Aijima, Hayaho and others.
METHOD OF CONTROLLING MOLECULAR WEIGHT. July 63, 12p. 5 refs.
Order from SA $19.00 SA Code-P-208

Trans. in manuscript of published Japanese patent 13882/1962, cl. 26-B-11 (26-B-121) (13-F-1) appl. no. 20827/1960 filed 15 Apr 60, pub. 13 Sep 62, by Asahi Chemical Industry Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, Molecular weight, Control, *Ethylenes, *Propenes, Polymerization, *Triphenylmethanes, Metalorganic compounds, *Ziegler catalysts, Alkyl radicals, *Titanium compounds, Halides.

Takiguchi, Keiji and Nakamura, Yushiro.
THERMOPLASTIC HALOGENATED VINYL POLYMER COMPOSITION CONTAINING COPOLYMER OF STYRENE WITH ALKYL ACRYLATE. July 63, 8p.
Order from SA $19.00 SA Code-P-207

Trans. of published Japanese patent 13864/1962, cl. 25-H-351 (25-A-51) appl. no. 27575/1960 filed 13 June 60, pub. 13 Sep 62, by Mitsubishi Monsanto Chemical Co., Ltd.

DESCRIPTORS: Thermoplastics, *Halocarbon plastics, *Vinyl plastics, *Polyvinyl chloride, *Acrylic acid esters, Ethyl radicals, *Polyvinyl alcohol, *Styrenes, Vinyl radicals, *Acetates, Copolymerization.

Tamus, Charles L.
METHOD FOR POLYMERIZATION OF OLEFIN. July 63, 12p. 1 ref.
Order from SA $19.00 SA Code-P-197

Trans. in manuscript of published Japanese patent 20242/1961, cl. 26-B-11 (26-B-21) appl. no. 33418/1960 filed 2 Aug 60, pub. 24 Aug 61, by Sun Oil Co., U.S.A., date of convention: 20 Jan 60, (U.S.A.).

DESCRIPTORS: *Polyethylene plastics, *Heptenes, *Butenes, Polymerization, *Ethylenes, *Propenes, Copolymerization, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals, *Titanium compounds, *Vanadium compounds, *Zirconium compounds, *Tungsten compounds, *Chlorides, *Oxychlorides, Production, Sorption.

Tocker, Stanley.
METHOD OF MANUFACTURING α-OLEFIN COPOLYMERS. July 63, 36p. 3 refs.
Order from SA $22.00 SA Code-P-212

Trans. in manuscript of published Japanese patent 19495/1961, appl. no. 1833/1960 filed 25 Jan 60, pub. 16 Oct 61, priority claimed: 27 Jan 59 (U.S.A.) by E. I. Du Pond de Nemours & Co., U.S.A.

DESCRIPTORS: *Polyethylene plastics, Manufacturing methods, *Ethylenes, Propenes, Butenes, Pentenes, *Hexenes, Octenes, Decenes, *Isoprene, *Butadienes, Ethyl radicals, Propyl radicals, Chlorides, Acetyl radicals, Cyand radicals, Copolymerization, Organic solvents, Benzenes, Chlorides, Metatorganic compounds, *Ziegler catalysts, *Vanadium compounds, Halides, *Aluminum compounds, Butyl radicals.

Ueno, Minoru and Ikeda, Hayao.
METHOD FOR POLYMERIZATION OF OLEFINS. July 63, 10p.
Order from SA $19.00 SA Code-P-198

Trans. in manuscript of published Japanese patent 6642/1962, cl. 26-B-11 (13-F-15) appl. no. 18909/1959 filed 16 June 59, pub. 30 June 62, by Mitsui Petroleum Chemical Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, *Ethylenes, *Propenes, Polymerization, Copolymerization, Additives, Fatty acid esters, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals, Alkoxy radicals, Group IV elements, Group V elements, Group VI elements, *Titanium compounds, *Chlorides, *Oxychlorides.

Yamaoka, H., Hagashimura, T., and Okamura, S.
STUDY OF THE CATIONIC POLYMERIZATION OF ALKYL VINYL ETHERS BY HETEROGENEOUS CATALYSTS. PT. 1. POLYMERIZATION OF ISO-BUTYL VINYL ETHER CATALYZED BY METAL SURFATE-SULFURIC ACID COMPLEXES [1963] 8p.
Order from ATS $11.50 ATS-32Q70J

Trans. of Kobunshi Kagaku (Japan) 1961, v. 18, no. 197, p. 516-566.

DESCRIPTORS: *Vinyl plastics, Vinyl radicals, Alkyl radicals, Butyl radicals, Ethers, Polymerization, *Catalysts, *Complex compounds, Metallic compounds, *Sulfuric acid.

Yamada, Saburobee, Aijima, Toshiho and others.
METHOD OF POLYMERIZING α-OLEFINS. July 63, 9p. 3 refs.
Order from SA $19.00 SA Code-P-204

Trans. of published Japanese patent 11536/1962 cl. 26-B-11, appl. no. 26317/1960 filed 2 June 60, pub. 20 Aug 62, by Asahi Kasei Kogyo Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, *Propenes, Ethylenes, Styrenes, Butenes, Polymerization, Ziegler catalysts, Decomposition, *Methanol, *Organic solvents, *Hexanes, Heptanes, Octanes, Cyclohexanes.

Yamada, Saburobee, Yamaguchi, Tokushige and others.
METHOD OF POLYMERIZING α-OLEFIN. July 63, 8p. 2 refs.
Order from SA $19.00 SA Code-P-205

Trans. of published Japanese patent 11537/1962, cl. 26-B-11, appl. no. 26318/1960 filed 2 June 60, pub. 20 Aug 62, by Asahi Kasei Kogyo Co., Ltd.

DESCRIPTORS: *Polyethylene plastics, *Propenes, Ethylenes, Butenes, Polymerization, Ziegler catalysts, *Organic solvents, *Methanols, *Cyclohexanes, *Hexanes, Heptanes, Octanes.

Zeigler, Karl.
NOVEL CATALYTIC TRANSFORMATION OF OLEFINS. [1963] 16p. 9 refs.
Order from SLA $1.60 63-16805

Trans. of Brennstoff-Chemie (West Germany) 1952, v. 33, p. 193-200.

DESCRIPTORS: *Ethylenes, *Catalysis, *Ziegler catalysts, *Lithium, *Aluminum compounds, Ethyl radicals, Alkyl radicals, Chemical reactions, Propenes, Polymerization, *Polyethylene plastics.

Rubber and Elastomers

RUBBER MELTING METHOD. 14 June 63, 6p. 7245/54 Japan.
Order from INT $18.00

Trans. of Japanese patent 7245/54 by Nihon Kogyo Co. Ltd., filed 23 Aug 50.

DESCRIPTORS: *Rubber, Melting.

Fisher, Blues Sigmand.
METHOD OF MANUFACTURING HYDROCARBON COPOLYMERS. July 63 [46]p.
Order from SA $28.00 SA Code-P-217

Trans. in manuscript of published Japanese patent 15037/1962, cl. 26-B-11 (26-B-21) (25-H-311) appl. no. 15210/1961 filed 1 May 61, pub. 25 Sep 62 (priority claim: 2 May 60, U.S.A.) by E. I. du Pont de Nemours & Co., U.S.A.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, Manufacturing methods, Hydrocarbons, *Ethylenes, *Propenes, *Dienes, Copolymerization, Solvents, Chlorocarbons, Catalysts, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals, Halides, *Vanadium compounds, Chlorides, Oxychlorides, Vulcanization

Gladding, Edward Carcher.
METHOD OF PRODUCING RUBBER-LIKE COPOLYMERS. July 63, 31p. 3 refs.
Order from SA $22.00 SA Code-P-213

Trans. in manuscript of published Japanese patent 12537/1962, cl. 26-B-11, appl. no. 11019/1961 filed 29 Mar 61, pub. 31 Aug 62, by E. I. du Pont de Nemours & Co., U.S.A.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, Production, *Ethylenes, *Propenes, Butenes, Pentenes, Heptenes, Decenes, *Cyclopentadiene, Copolymerization, Metalorgainc compounds, *Ziegler catalysts, *Vanadium compounds, Chlorides, Oxychlorides, *Aluminum compounds, Alkyl radicals, Solvents.

Hosono, Junichi, Onishi, Akira, and Ueda, Kenichi.
METHOD OF MAKING CIS-1,4-POLYBUTADIENE.
July 63, 11p.
Order from SA $19.00 SA Code-P-202

Trans. in manuscript of published Japanese patent 8191/1962, cl. 26-B-211, appl. no. 25674/1960 filed 30 May 60, pub. 13 July 62, by Bridgestone Tire Co., Ltd.

DESCRIPTORS: *Elastomers,*Butadienes, Polymerization, Catalysts, *Nickel catalysts, *Cobalt catalysts, Group III elements, Group IV elements, Group V elements, Halides, Oxyhalides, Group I elements, Group II elements, Hydrides, *Metalorgainc compounds.

Mostardini, Rino, Magli, Robert and others.
IMPROVED METHOD OF MANUFACTURING α-OLEFIN COPOLYMERS. July 63 42p. (figs. omitted).
Order from SA $25.00 SA Code-P-216

Trans. in manuscript of published Japanese patent 10491/1961, cl. 26-B-11, appl. no. 35319/1958 filed 10 Dec 58, pub. 13 July 61 (priority asserted: 11 Dec 57, Italy) by Montecatini Societa Generale, per l'Industria Mineraria e Chimica, Italy and Karl Ziegler, Germany.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, Manufacturing methods, *Ethylenes, Polymerization, Catalysts, Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals, Halides, Hydrides, *Titanium compounds, *Vanadium compounds, Chlorides

Natta, G., Crespi, G. and others.
NEW TERPOLYMERS BASED ON ETHYLENE AND PROPYLENE. [1963] 15p. 7 refs.
Order from CTS(Chem) $13.20 CTS(Chem)-341
subsequent copies $2.20/ea.

Trans. of [la] Chimica e [l']Industria (Italy) 1963, v. 45, no. 6, p. 651-656.

DESCRIPTORS: *Elastomers, *Polyethylene plastics, *Ethylenes, *Propenes, *Dienes, Copolymerization, Ziegler catalysts, Physical properties, *Vulcanization, Fillers, Oils, Aging.

Resnikovskii, M. M., Priss, L. S., and Khromov, M. K.
RELATION ENTRE LA RÉSISTANCE À LA FATIGUE, LA SOLIDITÉ, L'HYSTÉRÉSIS ET LA STABILITÉ CHIMIQUE DES CAOUTCHOUCS (Relationship between Fatigue Resistance, Strength, Hysteresis and Chemical Resistance of Rubbers). 13p. 8 refs.
Order from OTS, ETC or CNRS $0.80 62-26973

Trans. in French of #Kolloidnyi Zhurnal (USSR) 1959, v. 21, no. 4, p. 458-464.

DESCRIPTORS: *Rubber, Hysteresis, Stability, Fatigue (Mechanics).

Yoshimoto, Toshio, Onishi, Akira, and Ueda, Kenichi.
METHOD OF MAKING CIS-1,4-POLYBUTADIENE.
July 63, 13p. 1 ref.
Order from SA $19.00 SA Code-P-203

Trans. in manuscript of published Japanese patent 8192/1962, cl. 26-B-211, appl. no. 25675/1960 filed 30 May 60, pub. 13 July 62, by Bridgestone Tire Co., Ltd.

DESCRIPTORS: *Elastomers, *Butadienes, Polymerization, Catalysts, *Nickel catalysts, *Cobalt catalysts, *Boron compounds, Halides, *Metalorganic compounds, Hydrides, Group I elements, Group II elements, Group III elements, Group IV elements.

Wood and Paper

Breznjak, Marijan and Hvamb, Gullik.
STATISTICAL COMPUTATION OF THE THICKNESS VARIATIONS OF BOARDS (Statistische Berechnung der Dickenschwankungen in Brettern). June 63 [7]p. (figs. omitted) 4refs. FPRB Trans. no. 158.
Order from NRCC NRCC C-4497

Trans. of Holz als Roh- und Werkstoff (West Germany) 1963, v. 21, no. 2, p. 62-64.

DESCRIPTORS: Statistical analysis, Thickness, *Wood

Fujinami, N. and Okamura, T.
ÉTUDES SUR LA RÉSISTANCE MÉCANIQUE DU PAPIER KRAFT. Partie 5. (Mechanical Resistance of Paper). 10p. 4 refs. FX-961.
Order from OTS, ETC or CNRS $0.80 62-26449

Trans. in French of Kami-pa Gikyoshi (Japan) 1961, v. 15, no. 121 [p. 248-254].

DESCRIPTORS: *Paper, Mechanical properties.

Fujinami, N. and Okamura, T.
PROPRIÉTÉS MÉCANIQUES DU PAPIER KRAFT. 4. (Mechanical Properties of Paper). 8p. 4 refs. FX-750.
Order from OTS, ETC or CNRS $0.80 62-26460

Trans. in French of Kami-pa Gikyoshi (Japan) 1961, v. 15 [no. 120] p. 197-[200].

DESCRIPTORS: *Paper, Packaging, Mechanical properties, *Humidity.

Fuju, Y. and Kanemoto, M.
PÉNÉTRATION DE L'HUILE DANS LE PAPIER. Partie 2. (Penetration of Oil in Paper). 13p. 5 refs. FX-634.
Order from OTS, ETC or CNRS $0.80 62-26480

Trans. in French of Kami-pa Gikyoshi (Japan) 1959, v. 13, [no. 96] p. 189-195.

DESCRIPTORS: *Paper, *Oils, Absorption, Measurement.

Hojnos, Jan.
DIRECT OXIDATION OF SODIUM SULFIDE AS A NEW METHOD OF RECOVERY OF SODIUM SULFITE SPENT LIQUORS. May 63, 16p. (figs. table formulae omitted).
Order from SLA $1.60 63-18012

Trans. of Zellstoff und Papier (East Germany) 1963, v. 12, no. 3, p. 67-72.

DESCRIPTORS: Oxidation, *Sodium compounds, *Sulfides, Recovery, *Sulfites, Solutions.

Miller, W. A. and Merriam, C. N., Jr.
PAPER PRODUCTS CONTAINING SYNTHETIC FIBERS. [29 Mar 63] 13p. (figs. omitted).
Order from OTS or SLA $1.60 63-18295

Trans. of German patent 1,060,246, appl. 10 June 58, pub. 25 June 59, issued 3 Dec 59 (priority: 10 June 57, Union Carbide Corp., U.S.A.).

DESCRIPTORS: *Paper, Tensile properties, Additives, *Fibers (Synthetic), *Thermoplastics, *Fibers (Natural), *Cellulose, Wood pulp, Processing.

The invention concerns a process for manufacturing paper products containing synthetic fibers characterized in that a mixture of at least two, usually solid, synthetic thermoplastic resins which do not react together or are insoluble in each other is extruded to give an infinitely long single thread, which is cold-stretched for the longitudinal orientation of the molecules, whereupon the oriented single thread is cut into pieces and mechanically beaten in an inert liquid, then fibers of natural sources are added to the resulting fiber pulp and the paper pulp is processed in the known manner to give paper products. (Author)

Nikumi, J.
VIEILLISSEMENT THERMIQUE DU PAPIER ISOLANT (Thermal Aging of Insulating Paper). 11p. 11 refs. FX-633.
Order from OTS, ETC or CNRS $0.80 62-26481

Trans. in French of Kami-pa Gikyoshi (Japan) 1959, v. 13, [no. 96] p. 183-188.

DESCRIPTORS: *Paper, *Capacitors, Desiccants, High temperature research, Air.

Sugimatsu, A. and Yahara, S.
DOSAGE DU GROUPE CARBONYLE DE LA CELLULOSE À L'AIDE DE LA MÉTHODE DE RÉDUCTION AU BOROHYDRURE DE SODIUM (Determination of Carbonyl Groups in Cellulose by the Sodium Borohydride Reduction Method). 11p. FX-1174.
Order from OTS, ETC or CNRS $0.80 62-26471

Trans. in French of Kami-pa Gikyoshi (Japan) 1960, v. 14, no. 113 [p. 516-521].

DESCRIPTORS: *Wood pulp, *Cellulose, *Carbonyl radicals, Quantitative analysis, Reduction, *Borohydrides, Sodium compounds.

Toda and Kijima.
INFLUENCE DES HÉMICELLULOSES SUR LES PROPRIÉTÉS PAPETIÈRES DES PÂTES AU BISULFITE ET AU BISULFITE DESODIUM BLANCHIES (Effect of Hemicellulose on the Properties of Paper from Bisulfite and Bleached Sodium Bisulfite Pulps). 11p. 13 refs. FX-1102.
Order from OTS, ETC or CNRS $0.80 62-26466

Trans. in French of Kami-pa Gikyoshi (Japan) 1961, v. 15, no. 125, p. 534-540.

DESCRIPTORS: *Paper, Mechanical properties, Cellulose, *Polymerization, Sulfate pulp, *Sulfites, *Wood pulp fibers, Viscosity, *Hemicellulose.

Toda, H., Kijima, T., and Hamada, T.
INFLUENCE DES HÉMICELLULOSES SUR LES PROPRIÉTÉS PAPETIÈRES DES PÂTES AU SULFATE ET AU BISULFITE. II. INFLUENCE DE L'HÉMICELLULOSE SUR L'APTITUDE AU GONFLEMENT ET LA LIAISON INTERFIBRES (Effect of Hemicellulose on Micproperties of Paper from Sulfate and Bisulfite Pulps. II. Effect of Hemicellulose on the Capacity of Swelling and Fiber Connection). 10p. 23 refs. FX-1104.
Order from OTS, ETC or CNRS $0.80 62-26467

Trans. in French of Kami-pa Gikyoshi (Japan) 1961, v. 15, [no. 122] p. 322-[330].

DESCRIPTORS: *Paper, Mechanical properties, Cellulose, Sulfate pulp, Sulfites, *Wood pulp fibers, *Polymerization, *Viscosity, *Hemicellulose.

Yur'ev, V. I., Pozin, S. S. and others.
INFLUENCIA DE LA MOLTURACION SOBRE LAS PROPIEDADES ELECTROCINETICAS DE LA CELULOSA AL SULFITO (PASTA DE PAPEL) (Vliyanie Rasmola na Elektrokineticheskie Svoistva Sul'fitnoi Tsellyulozy) (Influence of Milling on Electrokinetic Properties of Sulfite Cellulose (Paper Pulp). 9p. 2 refs. CID: 62-240.
Order from OTS, ETC or CID $0.80 62-29240

Trans. in Spanish of #Zhurnal Prikladnoi Khimii (USSR) 1955, v. 28, no. 10, p. 1131-1134.

DESCRIPTORS: *Wood pulp, Cellulose, Milling machines, Electrical properties.

MATHEMATICS

Alekseev, V. G.
ON THE CONDITIONS FOR THE ORTHOGONALITY AND EQUIVALENCE OF GAUSSIAN MEASURES IN THE FUNCTIONAL SPACE. [1963] [8]p. 14 refs.
Order from OTS or SLA $1.10 63-18065

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 4, p. 751-754.

DESCRIPTORS: *Statistical processes, *Probability, Functional analysis, Functions, Mathematical analysis.

It is well known that the Gaussian measures in the functional space of samples, corresponding to two different random processes, can be either equivalent, or orthogonal. However, the so far available necessary and sufficient conditions for the equivalence of the Gaussian measures are all not sufficiently effective in the sense that their testing for concrete processes represents an extremely complicated and so far unsolved problem. Therefore, of great value are the more particular sufficient conditions for the orthogonality and equivalence of the measures and to their finding is dedicated a number of studies. The present note contains certain new sufficient conditions for the orthogonality and equivalence of measures, corresponding to intervals of the real random processes with stationary Gaussian increments and a mean 0. (Author)

Dem'yanchuk, I. V.
METHOD OF REPRODUCING A HOMOGENEOUS FUNCTION OF TWO VARIABLES. 17 June 63 [4]p. FTD-TT-63-502.
Order from OTS or SLA $1.10 63-23433

Unedited rough draft trans. of Russian patent 145 020 (appl. 687,642/26, 3 Dec 60).

DESCRIPTORS: *Functions, Real variables, Binomials, Numerical analysis.

The proposed method of reproducing a homogeneous function of two variables (x and y) is distinguished by the fact, that to simplify the multiplying device and to increase the accuracy of reproducing the functions, the function is presented approximately in form of an exponential binomial, the coefficients at variables in which remain constant in a certain range of values $\xi = \frac{y}{x}$ and change during transition from section to section. (Author)

Dynkin, E. B.
THE NATURAL TOPOLOGY AND ECCESSIVE FUNCTIONS CONNECTED WITH THE MARKOV PROCESS. [1963] [7]p. 7 refs.
Order from OTS or SLA $1.10 63-18097

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 127, no. 1, p. 17-19.

DESCRIPTORS: *Topology, *Functions, *Statistical processes, Probability, Mathematical analysis.

A number of general theorems is formulated on the topology and the excessive functions, connected with arbitrary discontinued Markov processes. (Author)

Pinsker, M. S.
THE ENTROPY, THE RATE OF ITS ESTABLISHMENT AND THE ENTROPIC STABILITY OF GAUSSEAN RANDOM QUANTITIES AND PROCESSES. [1963] [9]p. 6 refs.
Order from OTS or SLA $1.10 63-18063

Trans. or Akademiya Nauk SSSR. Doklady, 1960, v. 133, no. 3, p. 531-534.

DESCRIPTORS: *Entropy, *Statistical processes, Stability, Measure theory, Mathematical analysis.

The entropic stability of gaussian random quantities and properties as well as their entropy and rate of establishment are defined and discussed. (Author)

Popovici, Tiberiu.
PRACTICAL APPLICATION OF MATHEMATICS AND COMPUTERS. 10 Sep 63, 6p. JPRS: 21006.
Order from OTS $0.50 63-31720

Trans. of Tribuna (Rumania) 1963, v. 7, no. 26(334) p. 1, 8.

DESCRIPTORS: *Computers, *Mathematics, Applied mathematics, Programming (Computers), Cybernetics.

Postnikov, A. G.
ARITHMETIC SIMULATION OF RANDOM PROCESSES. 4 June 63 [102]p. 61 refs. FTD-TT-62-1367.
Order from OTS or SLA $9.10 63-23095

Unedited rough draft trans. of Akademiya Nauk SSSR. Mathematicheskii Institut. Trudy, 1960, v. 57, p. 1-84.

DESCRIPTORS: *Arithmetic operations, *Statistical processes, *Sequences, Special functions, Functions, *Continued fractions, *Number theory, Simulation.

Topics include: Normal sequence of symbols; Champernowne's example of a normal sequence of terms; application to uniform distribution of fractional parts of an exponential function; criteria for normality of base sequence of terms; application of the criterion of normality for sequences of terms; a second definition of the normal sequence of symbols; a system of mutually normal sequences of terms; the problem of constructing a sequence mutually normal to a given sequence; Bernoulli-normal sequences of terms; construction of a Bernoulli-normal sequence of symbols; relationship of the concepts of Bernoulli-normal sequence of symbols and admissible number; completely uniformly distributed sequences; construction of a completely uniformly distributed sequence; N. M. Korobov's theorem; the converse of N. M. Korobov's theorem; a sequence completely distributed over the function F(x); construction of a sequence completely distributed with respect to a function F(x); measure in

a space of infinite sequences of symbols; a dynamic system in a space of sequences of terms; Birkhoff-Khinchin theorem; proof of the normality criterion for sequences of symbols on the basis of the Birkhoff theorem; dynamic system corresponding to the simplest Markov chain; Markov-normal sequences; construction of Markov-normal sequence of symbols; the dynamic system in the theory of continued fractions; normal continued fraction; and construction of a normal continued fraction.

Tsypkin, Ya. Z.
OPTIMAL PROCESSES IN AUTOMATIC PULSE SYSTEMS [Ob Optimal'nykh Protsessakh v Impul'snykh Avtomaticheskikh Sistemakh]. [1962] [7]p. 8 refs.
Order from OTS or SLA $1.10 62-10173

Trans. of Akademiya Nauk SSSR. Doklady, 1960, v. 134, no. 2 [p. 308-310].
Another trans. is available from OTS $1.10 as AD-264 170, STL-TR-61-5110-12, Mar 61, 8p.

DESCRIPTORS: *Satellite vehicle trajectories, Linear systems, *Linear programming, *Numerical analysis, Theory, Functions, Equations, Complex variables, Partial differential equations, *Difference equations.

Automatic pulse systems are described by difference equations. The solution of earlier optimal process problems was reduced to the detection of a trajectory connecting the origin of the coordinates with a point corresponding to initial conditions. This approach is based on the application of a convolution equation instead of a system of difference equations of the first order. This makes it possible to solve an optimal process problem on the basis of an elementary system of the extremum theory of multiple variable functions. (ASTIA abstract)

Computing Devices

Kapelevich, A. M.
FUNCTIONAL TRANSFORMER ON NONLINEAR ELEMENTS. 15 June 63 [5]p. FTD-TT-63-503.
Order from OTS or SLA $1.10 63-23422

Unedited rough draft trans. of Russian patent 145,021 (appl. 696,609/26, 9 Feb 61).

DESCRIPTORS: *Computer systems components, Nonlinear systems, Transformers, *Functions, Numerical analysis.

The invention concerns a Functional transformer on nonlinear elements, characterized by the fact, that to simplify construction and to assure approximations of functions, having plus and minus derivatives, it consists of two in-series connected stages, each one of which represents an in-series and in-parallel connected permanent resistances, thyrite resistances and stabilitrons. (Author)

Kitov, A. I.
CYBERNETICS AND CONTROL OF THE ECONOMY. 19 Aug 63, 8p. JPRS: 20685.
Order from OTS $0.50 63-31555

Trans. of [Novoe v Zhizni, Nauke, Tekhnike. Seriya 4: Tekhnika] (USSR) 1963 [no. 9] p. 34-37.

DESCRIPTORS: *Cybernetics, *Economics, Control systems, Automation, Computers, Mathematics.

Kurochkin, V. M.
COMPILING AND INTERPRETING SYSTEMS FOR USE OF STANDARD PROGRAMS FOR THE BESM COMPUTER OF THE ACADEMY OF SCIENCES USSR COMPUTER CENTER. 9 May 63 [56]p. FTD-TT-62-1496.
Order from OTS or SLA $5.60 63-23444

Unedited rough draft trans. of mono. Kompiliruyushchaya i Interpretiruyushchaya Sistemy Ispol'zovaniya Standartnykh Programm dlya Mashiny BESM-2 VTs AN SSSR, Moscow, 1961, 57p.

DESCRIPTORS: *Digital computers, *Computer logic, *Programming (Computers), Computer storage devices.

Topics include: Compiling and interpreting; storage of standard routines, compiling and interpreting programs; simplest application of compiler; simplest application of the interpreting program; general comments on the operation of the compiling and interpreting programs; blocking in working with the compiling and interpreting programs; standard routines; the Library of standard routines; flow chart and description of compiling program; and flow chart and description of interpreting program.

OTS SB-407, Revised $0.10

Office of Technical Services, Dept. of Commerce, Washington, D. C.
LINEAR PROGRAMMING. Jun 63, 14p 141refs
OTS Selective Bibliography SB-407, rev.

DESCRIPTORS: *Data processing systems, *Programming (Computers), Linear systems, *Bibliographies, *Linear programming.

List 141 domestic and foreign references to reports added to the OTS collection during the period 1950 to June 1963. Covers symposia, models for budgeting and financial planning, personnel data exploitation, decision rules for product and employment scheduling, inventory control, warehousing and transportation models among other subject. (Author)

Szoplinski, Zbigniew.
THE ANALYSIS, SYNTHESIS AND DESIGNING OF DYNAMIC SYSTEMS AND THE SOLUTION OF DIFFERENTIAL EQUATIONS IN AUTOMATION, ELECTROTECHNICS, AERODYNAMICS, PLASTIC CONSTRUCTION, SHIPBUILDING, NUCLEAR TECHNIQUE AND OTHERS, ON THE ELECTRONIC COMPUTER (ANALOG ANALYZER) "SHORT". 1962 [21p]
PL-480 Comm
Order from OTS $0.50 61-11306

Trans. of mono. [Analiza, Synteza i Projektowanie Ukledow Dynamicznych Oraz Rozwiazywanie Rownan Roznichzkowych z Zakresu Automatyki, Elektroniki, Aerodynamiki, Konstrukeji Sprezystych, Budowy Okretow, Techniki Jadrowaj i Imnych na Elektronowej Maszynie Matematycznej (Analizatorze Analogowym)] (Prace Katedry Automatyki i Telemechaniki Politechniki Warszawskiej) [Warsaw] 1959, p. 1-16.

DESCRIPTORS: *Computers, *Analog computers, Operation, Analysis, Synthesis, Design, Differential equations, Automation, Electronic engineering, Aerodynamics, Plastics industry, Shipyards, Nuclear engineering, *Programming (Computers).

MECHANICS

ALL-UNION CONGRESS ON THEORETICAL AND APPLIED MECHANICS [MOSCOW, 1960]. 17 May 63 [8]p. FTD-TT-63-199.
Order from OTS or SLA $1.10 63-23094

Unedited rough draft trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Mekhanika i Mashinostroenie, 1960, no. 2, p. 175-176.

DESCRIPTORS: *Conferences, *Scientific organizations, *Scientific personnel, *Mechanics, Reports.

Bronskii, A. P.
VELOCITY OF DEFORMATION OF A HOLLOW CYLINDER SUBJECTED TO INTERNAL PRESSURE, tr. by Sergey Shewchuck. Sep 62 [5]p.
Order from OTS or SLA $1.10 UCRL Trans-875(L)

Trans. of Moscow U. Vestnik. Seriya Matematiki, Mekhaniki, Astronomii, Fiziki, Khimii (USSR) 1956, v. 11, no. 1, p. 13-16.

DESCRIPTORS: *Pipes, *Deformation, *Velocity, Equations, Transformation (Mathematics), Mechanics, Geometric forms, Pressure, Cylindrical bodies, Plasticity.

Bykovtsev, G. I.
PROPAGATION OF DISTURBANCES IN MEDIA WITH NONLINEAR STRESS-STRAIN RELATIONS. [1963] 10p. 9 refs.
Order from OTS or SLA $1.10 63-18487

Trans. of [Zhurnal] P[rikladnoi] M[ekhaniki i] T[ekhnicheskoi] F[iziki] (USSR) 1961, no. 4, p. 102-108.

DESCRIPTORS: *Shock waves, *Propagation, Stresses, Mathematical analysis, Non-linear systems

An analysis is given of a problem of disturbance propagation in a medium with nonlinear stress-strain relation. Euler's representation for a solid medium is utilized; treatment of the problem is similar to that used by Taylor, but contrary to the latter's approach, here the principal attention is paid to the theory of propagation of shock waves.

Kamenkov, G. V. and Lebedev, A. A.
ON STABILITY OF MOTION IN A FINITE TIME INTERVAL [AND] NOTES. [1963] [23]p. 6 refs.
Free copies available from Boeing Scientific Research Labs. Library as Boeing Trans. R16 and R17. When supply is exhausted, order from OTS or SLA $2.60 63-16987

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1953, v. 17, p. 529-540; 1954, v. 18, p. 512.

DESCRIPTORS: *Motion, *Stability, Time, *Differential equations, Perturbation theory, Numerical analysis, Integrals, Real variables.

The solution of the problem of stability is reduced to an investigation of the integrals of the equations of perturbed motion of the type $\frac{dx_1}{dt} = X_1, \ldots, \frac{dx_n}{dt} = X_n$, where $X_1, \ldots, X_n$ are the familiar real functions of the real variables $x_1, \ldots, x_n$, which vanish for $x_1 = \cdots = x_n = 0$. (Author)

Kudryavtsev, N. V.
THE BENDING OF A CIRCULAR PLATE WITH AN ECCENTRIC OPENING (HOLE) BY A CONCENTRATED FORCE (THEORY OF ELASTICITY) (Izgib Krugloi Plastiny s Ekstsentrichnym Otverstiem pod Deistviem Sosredotochennoi Sily (Teoriya Uprugosti)) tr. by Marcel I. Weinreich. 3 Jan 63 [8]p. 4 refs.
Order from OTS or SLA $1.10 SCL-T-456

Trans. of Akademiya Nauk SSSR. Doklady, 1946, v. 53, no. 2, p. 107-110.

DESCRIPTORS: *Elasticity, Theory, Deformation, Sheets, Stresses, Numerical analysis.

Lekhnitskii, S. G.
SOME QUESTIONS OF BENDING THEORY FOR THIN PLATES: SUMMARY. [1963] 2p.
Order from OTS or SLA $1.10 63-18506

Trans. of Prikladnya Matematika i Mekhanika (USSR) 1938, v. 2, p. 209-210.

DESCRIPTORS: *Metal plates, Deformation, Theory, Equations.

Lymar', V. P.
A METHOD OF BALANCING THE FLOAT IN FLOAT-TYPE GYROSCOPE DEVICES. 5 Mar 63 [4]p. FTD-TT-62-1881; AD-298 660.
Order from OTS or SLA $1.10 63-15909

Unedited rough draft trans. of Soviet patent 147832 (745602/26-10) 25 Sep 61.

DESCRIPTORS: *Gyroscopes, Control systems, Weight, Design, Floats.

This method differs in that a single weight having a density equal to that of the liquid is attached to the float. The float is balanced first in the liquid and then in air. The use of this weight makes it possible to effect a balance in air without upsetting the balance in the liquid.

Mirolyubov, I. V.
CALCULATION OF THE CHARACTERISTICS OF AXIAL FOREPUMPS. 6 June 63 [15]p. 4 refs.
FTD-TT-63-418.
Order from OTS or SLA $1.60 63-23667

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1959, no. 1, p. 81-88.

DESCRIPTORS: *Propeller pumps, *Fluid dynamic properties, Cavitation, Impellers.

Mitrokhin, N. M. and Yagin, Yu. I.
À PROPOS DU CARACTÈRE SYSTÉMATIQUE DES ÉCARTS AUX LOIS DE LA PLASTICITÉ (Systematic Nature of Departures from Plasticity Laws). 8p.
10 refs. FR-406.
Order from OTS, ETC or CNRS $0.80 62-28128

Trans. in French of Akademiya Nauk SSSR. Doklady, 1960, v. 135, no. 4, p. 796-799.

DESCRIPTORS: *Nickel, Rods, *Cylindrical bodies, Torsion bars, *Deformation, *Plasticity, Measruement.

Paramonov, Yu. I.
A SYSTEM FOR BALANCING AND DETERMINING THE TRIM OF FLOAT-TYPE GYROSCOPES.
5 Mar 63 [5]p. FTD-TT-62-1880; AD-298 658.
Order from OTS or SLA $1.10 63-15908

Unedited rough draft trans. of Soviet patent 147831 (744457/26-10) 12 Sep 61.

DESCRIPTORS: *Gyroscopes, Control systems, Design, Centrifuges, Magnetic fields, Solenoids, Floats.

This system contains a centrifuge, an iconoscope with a television set, digital scales, a polentiometer, and an illuminator as in other systems. It differs in that to increase the accuracy of determining the trim and imbalance of the float, an annular magnetic circuit with a solenoid equidistant from the pole tips with a controlled magnetic field is used. To balance the float one pole tip of the magnetic circuit is connected through a reducing gear to an electric motor.

Savitskii, E. M. and Duisemaliev, U. K.
SUPERPLASTICIDAD DEL LATON LS 59-1, ALEADO CON CERIO (Sverkhplastichnost' Latuni LS 59-1, Legirovannoi Tseriem) (Superplasticity of the LS 59-1 Brass-Cerium Alloy). 9p. 3 refs. CID: 62-247.
Order from OTS, ETC or CID $0.80 62-29247

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1960, v. 131, no. 4, p. 817-819.

DESCRIPTORS: *Brass, *Cerium alloys, Plasticity.

Shorr, B. F.
VIBRATION OF PRETWISTED RODS (Kolebaniya Zakruchennykh Sterzhnei). May 63 [16]p. 16 refs.
RTS-2231.
Order from OTS or SLA $1.60 63-23258

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Mekhanika i Mashinostroenie, 1961, no. 3, p. 102-112.

DESCRIPTORS: *Rods, *Vibration, Mechanics, Deformation, Mathematical analysis, Stresses.

Stanyukovich, K. P.
PLANE DETONATION WAVES AND THE SCATTERING OF DETONATION PRODUCTS (Ploskie Detonatsionnyie Volnyi i Razlet Produktov Detonatsii). June 60 [92]p. TIL/T. 4896b; [DSIR] NLL M. 2819; AD-246 577
Order from OTS or SLA $8.60 62-23529

Trans. of mono. Nuestanovivshiesya Dvizheniya Sploshnoi Sredyi (The Unsteady Motion of a Continuous Medium) Moscow, 1955, chap. 8, p. 364-454.

DESCRIPTORS: *Continuum mechanics, *Detonation waves, Propagation, Scattering, *Charges (Explosives), *Shock waves, Reflection, *Flame propagation, Equations, Integration.

Takada, Masao and Hirota, Sadao.
MEASUREMENT OF THE VISCOSITY OF NON-NEWTONIAN LIQUID BY MEANS OF THE FALLING-SPHERE METHOD. [1963] [13]p. 7 refs.
Order from OTS or SLA $1.60 AEC-tr-5617

Trans. of Nihon Kagaku Zasshi (Japan) 1959, v. 80, p. 956-959.

*Viscosity, Liquids, Measurement, Falling bodies, Spheres.

Aerodynamics and Pneumatics

Biryulin, A. P., Karulin, E. I., and Lysyakov, A. G.
FIVE COMPONENT ELECTRIC AERODYNAMIC BALANCES. 28 May 63 [6]p. FTD-TT-63-379.
Order from OTS or SLA $1.10 63-23110

Unedited rough draft trans. of Russian patent 135345 (appl. 649975/27, 5 Jan 60).

DESCRIPTORS: Electrical equipment, *Aerodynamics, *Balances, Design.

This concerns five component electric aerodynamic balances for circular testing of models, including elastic elements with tenso labels, characterized by the fact, that for the purpose of simplifying construction and reducing the effort in processing the experimental material by taking measurements in coordinates of axes, connected with the model, they are made in form of supporting pedestals, bearing on their internal

ends five elastic elements of hinge fastened ring type with tenso labels, of which two rings with device- on lower. For the purpose of assuring measurements in a wide zone of values of forces and moments, the used rings are of various rigidity, and to the third lower ring are added various setting arms. For the purpose of assuring suspension of models of various height, the pedestals are made in form of hollow guide screws. (Author)

Brailovskaya, I. Yu. and Chudov, L. A.
THE SOLUTION OF BOUNDARY LAYER EQUATIONS BY THE DIFFERENCE METHOD. 16 May 63 [21]p. 9 refs. FTD-TT-63-285. AD-409 560.
Order from OTS or SLA $2.60 63-23093

Unedited rough draft trans. of mono. Vychislitel'nye Metody i Programmirovanie, Moscow U., 1962, p. 167-182.

DESCRIPTORS: *Boundary layer, Incompressible flow, Compressible flow, *Difference equations, Numerical analysis.

The methods and results are presented of the numerical solution of the system of equations of a two-dimensional steadystate boundary layer on a plate. The examined method can be applied in the particular case of a homogeneous incompressible fluid and in the general case of a multi-component compressible gas taking into account heat transfer and diffusion. (Author)

Detsch, F. Freund, K. and others.
FACILITIES FOR FLOW INVESTIGATIONS AT THE INSTITUTE FOR APPLIED AERODYNAMICS OF THE TECHNICAL UNIVERSITY IN DRESDEN. 29 July 63, 9p. JPRS: 20378; NASA N63-19795.
Order from OTS $0.50 63-31395

Trans. of Maschinenbautechnik (East Germany) 1963, v. 12, no. 5, p. 269-271.

DESCRIPTORS: *Aerodynamics, *Test facilities, Test equipment, Fluid flow, *Wind tunnels.

Dulov, V. G.
AN APPROXIMATE METHOD FOR CALCULATING AXISYMMETRICAL SUPERSONIC ISENTROPIC GAS FLOWS WITH LITTLE DIVERGENCE OF THE FLOW. 23 Jan 63 [12]p. 1 ref. FTD-TT-62-1802; AD-298 208.
Order from OTS or SLA $1.60 63-19084

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1962, no. 2, p. 8-14.

DESCRIPTORS: *Gas flow, Axially symmetrical flow, Supersonic flow, Entropy, Linear systems, Numerical analysis.

The proposed method of calculating axisymmetrical flows combines partial linearization with retention of the main characteristics of nonlinear problems and the simplicity characteristic of the linear theory. The applicability of the method is limited by the assumption of isentropicity of the flow and by the assumption of sufficient smallness of the divergence angles of the flow. An approximate estimation of the accuracy is made by comparing the simplest exact solutions with approximate calculations under the same boundary conditions.

Gorbis, Z. R. and Bakhtiozin, R. A.
ON THE AERODYNAMIC CHARACTERISTICS OF GRAPHITE PARTICLES. 23 May 63 [9]p. 4 refs. FTD-TT-63-393.
Order from OTS or SLA $1.10 63-23212

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Energetika (USSR) 1961 [v. 4] no. 11, p. 101-104.

DESCRIPTORS: *Graphite, Particle size, *Aerodynamic characteristics, Test equipment, Design, Tests, Coolants.

In conjunction with studies concerning the use of gas-graphite suspensions as coolants, The suspending velocities of various sized graphite particles were determined.

Ivanov, V. S.
ON THE DEPENDENCE OF THE COEFFICIENT OF CONSERVATION OF PRESSURE OF A RETARDED FLOW σ ON THE VELOCITY FACTOR φ IN THE SUPERSONIC SECTION OF A LAVAL NOZZLE WITH INCOMPLETE AND COMPLETE EXPANSION OF THE GAS IN THE NOZZLE. 22 Jan 63 [12]p. 1 ref. FTD-TT-62-1643; AD-298 237.
Order from OTS or SLA $1.60 63-19082

Unedited rough draft trans. of [Izvestiya Vysshikh Uchebnykh Zavedenii]. Aviatsionnaya Tekhnika (USSR) 1962, no. 1, p. 75-81.

DESCRIPTORS: *Laval nozzles, Exhaust gases, Pressure, Velocity, Mathematical analysis, Supersonic characteristics, *Gas flow, Supersonic flow.

Kholyavko, V. I.
FLOW PAST A PLATE AT HIGH SUPERSONIC VELOCITIES. 18 June 63 [12]p. 5 refs. FTD-TT-63-485.
Order from OTS or SLA $1.60 63-23197

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Mekhanika i Mashinostroenie, 1962, no. 5, p. 26-31.

DESCRIPTORS: *Supersonic flow, *Blunt bodies, *Aerodynamic characteristics, Gas flow, Angle of attack, Shock waves, Numerical analysis, Aerodynamic configurations.

In accordance with the analogy of an "explosion wave" the problem of high supersonic flow past bodies reduces to studying the gas movement in the transverse plane. The problem of a flat explosion is equivalent to symmetrical flow past a flat blunt plate. The solution of

this problem has a particularly simple form if we disregard the effect of the initial pressure. The problem of a flat explosion with subsequent movement of the piston corresponds to flow past a flat blunt plate at an angle of attack. In this case, even if we disregard the initial pressure the problem is significantly complicated and its precise solution is possible by numerical methods. The approximate solution of this problem can be carried out if it is limited to small angles of attack when blunting of the plate exerts the determining influence on the nature of the flow. Additional influence due to rotation of the flow on the plate (piston movement) is determined from the equation for a shock wave. (Author)

Krasil'nikov, Yu. I. and Golubev, V. A.
AERODYNAMIC CHARACTERISTICS OF WINGS IN A SUPERSONIC FLOW IN PRESENCE OF SLIPPING [AND] PROBLEM OF CALCULATING A TURBULENT STREAM WITH VERY HIGH TEMPERATURE. 13 June 63 [31]p. (1 fig. omitted) 8 refs. FTD-TT-63-388.
Order from OTS or SLA $3.60 63-23442

Unedited rough draft trans. of Inzhenernyi Zhurnal (USSR) 1962, v. 1, no. 4, p. 18-26, 51-58.

DESCRIPTORS: *Wings, *Aerodynamic characteristics, *Supersonic flow, Compressible flow, Gases, Temperature, *Turbulence, Numerical analysis.

Telenin, G. F. and Tinyakov, G. P.
UNSTEADY SUPERSONIC FLOW OVER A CONE WITH A BLUNTED TIP (Nestatsionarnoe Sverkhzvukovoe Obtekanie Konusa s Okruglennoi Vershinoi) tr. by John W. Brook and V. Michael Pick. Dec 62 [27]p. 2 refs. Grumman Research dept. Trans. TR-24; AD-294 335.
Order from OTS or SLA $2.60 63-23477

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskaya] N[auk]. Izvestiya: Mekhanika i Mashinostroenie, 1961, no. 2 [p. 97-105].

DESCRIPTORS: Supersonic flow, Conical bodies, *Blunt, bodies, Oscillation, Moments, Equations, Pressure, Drag, Supersonics.

Equations are derived for determing the flow characteristics for blunted tip cones in an unsteady supersonic flow. Included are equations for the aerodynamic moments acting on an oscillating body in supersonic flow.

Zimenkov, V. I.
AERODYNAMIC BALANCES. 23 May 63 [4]p. FTD-TT-63-380; AD-409 092.
Order from OTS or SLA $1.10 63-23108

Unedited rough draft trans. of Russian patent 135271 (appl. 666600/26, 16 May 60).

DESCRIPTORS: *Aerodynamics, *Balances, Design.

The invention involves aerodynamic balances, in which the tested model, mounted on the holder, is fastened to the movable table assuring free displacements of the model under the effect of measured force and coupled with the core of the inductive transmitter, connected to the measuring bridge circuit, distinguished by the fact that for the purpose of eliminating the effect of table supports on the measurement accuracy, the table is supported against a float, submerged in a liquid. (Author)

Hydrodynamics, Hydraulics, and Hydrostatics

Kiselev, M. I.
HYDRODYNAMICS: [CONTRIBUTION TO CALCULATION OF SHOCK WAVES IN MAGNETOHYDRODYNAMICS]. [1963] 5p. (figs. formulae omitted) 6 refs.
Order from OTS or SLA $1.10 63-16260

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 126, no. 3, p. 524-527.

DESCRIPTORS: *Hydrodynamics, *Magnetohydrodynamics, *Shock waves, Mathematical analysis, Algebra.

The calculation of the parameters of the magnetohydrodynamic shock waves in the ideal gas with isentropy p equals $A\rho^{k}$ encounters mathematical difficulties because it leads to algebraic equations of the third degree and higher (1, 2). In this note it is shown that the calculation can always be simplified by lowering the degree of the equation to unity. (Author)

Ladyzhenskaya, O. A.
THE MATHEMATICAL THEORY OF VISCOUS INCOMPRESSIBLE FLOW, tr. by Richard A. Silverman Mathematics and its Applications, v. 2. Aug 63, 184p. 80 refs.
Order from GB $9.50

Trans. of mono. Matematicheskie Voprosy Dinamiki Vyazkoi Neszhimaemoi Zhidkosti [Fizmatgiz] 1961.

DESCRIPTORS: *Fluid flow, *Incompressible flow, Viscosity, Mathematical analysis, *Partial differential equations, Functions, Hydrodynamics, Texbooks, Theory, *Boundary value problems.

Sauter, Fritz.
A LIQUID SEMI-INFINITE BODY UNDER A MECHANICAL INFLUENCE ON ITS SURFACE (A TWO DIMENSIONAL PROBLEM) (Der Flüssige Halbraum bei Einger Mechanischen Beeinflussung Seiner Oberfläche (Zweidimensionales Problem). [1963] 8p. (figs. omitted).
Order from SLA $1.10 63-18058

Trans. of Zeitschrift für Angewandte Mathematik und Mechanik (Germany) 1950, v. 30, no. 5/6, p. 149-153.

DESCRIPTORS: *Water waves, *Surfaces, *Pressure, Mathematical analysis, Integrals, Functions, Liquids, Fluid flow.

For abstract see Mathematical Review 12: 215, 1951.

Schachenmeier, R. and Muller, G.
A METHOD OF INVESTIGATING THE PRESSURE FLUCTUATIONS IN POPPET-VALVE GAS METERS (Verfahren zur Untersuchung der Druckschwankungen an Ventil-Gaszählern). [1962] 9p. 5 refs.
Order from SLA $1.10 62-16364

Trans. of A[llgemeine] E[lektricitäts]-G[esellschaft]. Forschungs-Institut. Jahrbuch (Germany) 1936, v. 4.

DESCRIPTORS: *Flowmeters, Gas Flow, Valves, Pressure, Test methods, Tests, Oscillographs.

METALLURGY

BURNER STRUCTURAL DESIGNS FOR THE HEATING OF SIEMENS-MARTIN FURNACES ENTIRELY WITH OIL AND TAR. [1963] 17p. 8 refs.
Order from SLA $1.60 63-16865

Trans. of Stahl und Eisen (West Germany) 1955, v. 75, no. 23 [p. 1553-1557] [Verein Deutscher Eisenhüttenleute (West Germany). Berichte-421 and 582].

DESCRIPTORS: Furnaces, *Open hearth furnaces, Design, Structural properties, *Heating, *Oils, *Tar, *Oil burners, Fuels, Economics.

Contents:
Experiments on oil heating with Brinkmann burner, by Karl Fettweis and others
Experience with STEC and Krause burners, by M. Hauck.

CONTEMPORARY PROBLEMS OF PHYSICAL METALLURGY. Reports from a seminar held at the Leningrad House of Scientific and Technical Propaganda, 9-11 May 61. 2 July 63 [89]p. 104 refs.
FTD-TT-63-510.
Order from OTS or SLA $8.10 63-23674

Unedited rough draft trans. of mono. Sovremennye Voprosy Fizicheskogo Metallovedeniya, Leningrad, 1962, 61p.

DESCRIPTORS: *Metallurgy, Alloys, *Transition elements, Crystal structure, Ferromagnetic materials, Crystal lattices, Plasticity, Annealing, Palladium alloys, Tungsten alloys, Molybdenum alloys, Iron, Nickel, Aging (Materials), Chromium alloys, Thermal stresses, Grain structures (Metallurgy), Fatigue (Mechanics), Creep, Resistance (Electrical).

Contents:
The K-state in alloys, by V. S. Mes'kin
Intraphase decomposition (K-state) and its significance in present-day alloys, by S. V. Dianov
Two-phase decomposition of solid solutions, by P. I. Filimonov
Perfection and strength of crystals, by E. M. Nadgornyi
Behavior of noncubic polycrystalline metals in thermal cycling, by V. A. Likhachev.

CYCLIC STRENGTH OF METALS: SELECTED ARTICLES. [Materials of Conference on Metal Fatigue (no. 2) 24-27 May 60]. 10 June 63 [77]p. 38 refs.
FTD-TT-62-1872.
Order from OTS or SLA $7.60 63-23614

Unedited rough draft trans. of mono. Tsiklicheskaya Prochnost' Metallov, Moscow, 1962, p. 123-133, 233-266.

DESCRIPTORS: *Conferences, *Metals, *Fatigue (Mechanics), Determination, Acceleration, *Load distribution, Solids, Mechanical properties, Brass, Castings, *Corrosion, *Steel, Nickel alloys, Chromium alloys, Carbon, Melting, Temperature, Alloys, Shock resistance, Failure (Mechanics), Plasticity, Deformation, Aging (Materials), Heat resistant metals and alloys.

Contents:
Investigation of the possibility of applying the accelerated method of determining fatigue strength under conditions of an asymmetric loading cycle and with various production treatments, by M. A. El'yasheva
Fundamental factors on investigation of the effect of the external media on fatigue resistance, by T. V. Karpenko
Corrosion-fatigue resistance of cast brass, by V. A. Bykov and G. N. Vsevolodov
Influence of low-melting metallic melts on fatigue resistance of carbon and chromium-nickel steels, by M. I. Chaevskii
Apparatus for study of metal corrosion fatigue, by S. A. Gladyrevskaya and others
Influence of temperature and technological factors on the endurance of thermal-shock-resisting steels and alloys, by B. I. Aleksandrov.

HYDROTHERMAL TREATMENT OF ALKALI CONTAINING MINERALS IN CRITICAL STATE. 14 June 63, 14p. 422/55 Japan.
Order from INT $42.00

Trans. of Japanese patent 422/55 by Shigeaki Yamazaki., filed 20 Sep 51.

DESCRIPTORS: *Minerals, *Alkali metal compounds, Alkaline earth metals, Solvent extraction, Water.

IMPROVEMENTS RELATING TO SOLDERING PROCESS. 13 June 63, 6p. 6865/51 Japan.
Order from INT $16.50

Trans. of Japanese patent 6865/51 by the Mond Nickel Co. Ltd., Gt. Britain., filed 2 Sep 50.

DESCRIPTORS: *Soldering.

MANUFACTURING METHOD FOR METAL POWDER. 20 June 63, 13p. 6613/57 Japan.
Order from INT $39.00

Trans. of Japanese patent 6613/57 by Keiki Kambayashi c/o The Shataku of Dai-Nihon Kinzoku Titanium Co. Ltd., filed 21 Oct 55.

DESCRIPTORS: *Powder metals, Manufacturing methods.

MANUFACTURING METHOD FOR METAL TUBE BY A LONGITUDINAL SEAM WELDING PROCESS. 25 June 63, 15p. 8425/61 Japan.
Order from INT $45.00

Trans. of Japanese patent 8425/61 by Magnetic Heating Corp., USA, filed 10 Feb 59.

DESCRIPTORS: *Pipes, Metals, *Welding, Manufacturing methods.

METHOD FOR REMOVING GASES FROM Ld-TYPE-CONVERTER METALS. Ld-TYPE: SYSTEM OF BLOWING DOWNWARD FROM THE TOP OF CONVERTER. 18 June 63, 5p. 6108/62 Japan.
Order from INT $15.00

Trans. of Japanese patent 6108/62 by Yawata Seitetsu Co. Ltd., filed 14 Oct 59.

DESCRIPTORS: *Waste gases, Metallurgy, Furnaces.

METHOD FOR REPAIRING ERODED PARTS OF THE INSIDE WALL OF CONVERTOR. 18 June 63, 3p. 1553/62 Japan.
Order from INT $9.00

Trans. of Yawata Seitetsu Co. Ltd., filed 2 July 62.

DESCRIPTORS: Power plants, *Erosion, Surfaces, Maintenance, *Furnaces.

METHOD FOR TREATING TITANIUM-CONTAINING IRON SAND. 14 June 63, 7p. 3251/57 Japan.
Order from INT $19.50

Trans. of Japanese patent 3251/57 by Showa Denko Co. Ltd., filed 9 Mar 55.

DESCRIPTORS: *Iron, *Sand, *Titanium, Metallurgy.

METHOD FOR VACUUM DEGASIFICATION OF LIQUEFIED METAL. 18 June 63, 5p. 8801/62 Japan.
Order from INT $15.00

Trans. of Japanese patent 8801/62 by Fuyi Seitetsu Co. Ltd., filed 13 July 60.

DESCRIPTORS: Metals, *Liquid metals, *Degasification, Vacuum apparatus.

METHODS OF MANUFACTURING LOW ALLOY STEEL PRODUCTS. 17 June 63, 17p. 9858/57 Japan.
Order from INT $51.00

Trans. of Japanese patent 9858/57 by Soc. des Aciéries de Pompey, Paris, filed 13 July 55.

DESCRIPTORS: *Steel, Iron alloys, Alloys, Manufacturing methods.

PROCESS OF MANUFACTURING REFINED COPPER-NICKEL MATTE. 20 June 63, 3p. 4457/59 Japan.
Order from INT $7.50

Trans. of Japanese patent 4457/59 by Shunji Sato, c/o Shimura Kakoo Co. Ltd., filed 24 July 56.

DESCRIPTORS: *Copper compounds, *Nickel compounds, *Sulfides, Mixtures, Refineries, Metallurgy.

TREATING PROCESS FOR POTASSIUM-CONTAINED ALUMINOSILICATE ORE. 13 June 63, 12p. 1719/53 Japan.
Order from INT $36.00

Trans. of Japanese patent 1719/53 by Tokuyama Soda Co. Ltd., filed 13 May 49.

DESCRIPTORS: *Aluminum compounds, *Silicates, Minerals, *Potassium compounds, Ores (Metal sources).

TREATMENT METHOD FOR WASTE GAS OF CONVERTER. 18 June 63, 4p. 6703/62 Japan.
Order from INT $12.00

Trans. of Japanese patent 6703/62 by Kawasaki Jukogyo Co. Ltd., filed 16 Apr 60.

DESCRIPTORS: *Waste gases, Furnaces.

RUSSIAN METALLURGY AND FUELS, 1962, NO. 5. Mar 63, 116p.
Order from Scientific Information Consultants Ltd., 661 Finchley Road, London, N.W.2 $68.00/year

Trans. (some abridged) of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Metallurgiya i Toplivo, 1962, no. 5, p. 3-16, 29-36, 43-65, 69-95, 110-118, 128-156, 163-186. Abstracts are included of the articles not translated in full. ##Other translations of p. 9-14 and 29-36 are available from OTS or SLA $1.10 as 63-13483, 17 Dec 62 [10]p. and from HB $8.25 as HB-5785, Jan 63, 2700 words.

DESCRIPTORS: *Metallurgy, *Fuels, *Steel, *Aluminum, *Powder metallurgy, Slags, Corundum, *Glass, *Titanium, *Copper compounds, *Silicon, *Yttrium, *Heat resistant metal and alloys, *Cobalt, *Chromium, *Niobium, *Tungsten, *Carbides, *Molybdenum, *Rhenium, *Alloys.

Contents:
Andrei Anatolevich Bochvar on the 60th birthday
Alexander Mikhailovich Samarin on the 60th birthday

##Prospects for the creation of combined processes for the continuous casting and rolling of steel, by I. N. Golikov and O. G. Muzalevskii

Connection between etch figures and slip lines in polycrystalline aluminium, by A. A. Bochvar and others

##Reduction of iron oxides with hydrogen in a fluidized bed at elevated pressure, by P. Ya. Nasanov and others

Viscosity of lime-alumina slags, by A. G. Shalimov and V. G. Kuklev

Effect of alumina on the viscosity of calcium oxide-magnesium oxide-silica slags, by I. I. Gul'tyai

Wettability of corundum and quartz glass by ferro-silicon melts, by S. E. Volkov and others

Problems in chlorination of titanium-bearing materials, by D. M. Chizhikov and V. N. Korsunskaya

Investigation of the solubility of cuprous sulphide in cyanide solutions, by I. A. Kakovskii and Yu. M. Potashnikov

Acceleration of the high-temperature carburization of steel, by V. S. Vanin and V. G. Permyakov

Viscosity and electrical conductivity of liquid silicon, by V. M. Glazov

Correction of vapour pressure of metallic ittrium, by V. V. Karelin and others

Creep failure of heat-resistant alloys, by P. T. Kolomytsev

Heat-resistance of zirconium-niobium alloys, by V. B. Kishinovskii and V. K. Grigorovich

Effect of alumium on the mechanical properties of titanium alloys, by V. S. Mikheev and T. S. Chernova

Phase composition diagram of the cobalt-chromium-titanium tenary system, by E. K. Zakharov and B. G. Livshits

Process and oxidation products of niobium-titanium alloys, by D. A. Prokashkin and E. V. Vasil'eva

Creep of solid tungsten carbide-cobalt hard alloys, by G. S. Kreimer and others

Interaction of carbides, nitrides and borides in contact with refractory metals, by G. V. Samsonov and others

Recrystallization and mechanical properties of tungsten-molybdenum-rhenium alloys, by M. A. Tylkia and others.

Andreev, E. I. and others.
THE SPECTROGRAPHIC ANALYSIS OF MAGNESITES.
June/July 63, 500 words.
Order from HB-$2.00 HB-6023

Trans. of Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 6, p. 695-696.

DESCRIPTORS: *Magnesite, Spectrographic analysis, Standards.

Chepele, Yu. M.
A PUMP FOR PUMPING LIQUID (MOLTEN) METAL.
18 June 63 [5]p. FTD-TT-63-496; AD-410 148.
Order from OTS or SLA $1.10 63-23615

Unedited rough draft trans. of Russian patent 143,982, appl. no. 723,831/22-2, 30 Mar 61.

DESCRIPTORS: *Liquid metal pumps, Design.

The pump is of cylindrical construction, with inductor of running electromagnetic field, distinguished by the fact, that for the purpose of simplifying the fastening of the magnetic circuit, to facilitate the laying of wires, reducing the nonsymmetry of the magnetic circuit, and to assure convenience of assembling and disassembling the pump, it is made of two, situated in a cylindrical body, lined, concentrically arranged pipes, in the annular space between which flows the molten metal, and also situated there concentrically a pipe of magneto conductive metal, on which are sequentially arranged magneto conductive washers and coils.

Goryunov, Yu. V., Pertsov, N. V. and others.
EFFECT OF THE MICRORELIEF OF THE CONFORMITY TO LAW OF THE DISTRIBUTION OF LIQUID METAL OVER A HARD METALLIC SURFACE. 28 May 63 [10]p. 10 refs. FTD-TT-63-384.
Order from OTS or SLA $1.10 63-23208

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 146, no. 3, p. 638-641.

DESCRIPTORS: *Liquid metals, *Metal films, *Mercury, Surfaces, Hardness, Distribution, Absorption, Diffusion, Microstructure.

Ikeda, Hachiro, Yurimoto, Juntaro, and Ryu, You.
METHOD OF CONTINUOUSLY MAKING ALUMINUM.
July 63, 9p. 4 refs.
Order from SA $16.00 SA Code-P-178

Trans. of published Japanese patent 3353/1962, cl. 10-D-121 (16-B-121) (14-C-1) appl. no. 43160/1960 filed 10 Oct 60, pub. 2 June 62, by Sumitomo Chemical Industry Co., Ltd.

DESCRIPTORS: *Aluminum, Production, *Metal-organic compounds, Aluminum compounds, Alkyl radicals, Butyl radicals, Hydrides, Pyrolysis.

Irmann, R.
CRUCIBLES USED IN ALUMINUM FOUNDRIES.
21 Jan 63, 11p. (figs. omitted).
Order from SLA $1.60 63-18624

Trans. of Aluminium Suisse, 1951, v. 1, p. 75-81.

DESCRIPTORS: *Crucibles, *Foundries, *Aluminum, Graphite, Carborundum, Iron, Castings.

Katrus, O. A. and Vinogradov, G. A.
THREE-LAYER COPPER-IRON-COPPER STRIP ROLLED OF POWDERS. June/July 63, 3200 words.
Order from HB $6.40 HB-5999

Trans. of Poroshkovaya Metallurgiya (USSR) 1962, v. 2, no. 5, p. 60-67.

DESCRIPTORS: *Powder metallurgy, Powders, Powder metals, Powder alloys, *Copper, *Iron, Microstructure, Mechanical properties, Plasticity.

Kornilov, I. I. and Konobeevskii, S. T.
METALLOCHEMISTRY AND SOME OF ITS PROBLEMS [AND] EFFECT OF IRRADIATION AS A MATERIAL SCIENCE PROBLEM. Papers presented at the International Colloquium, The Impact of Science on Materials Technology, Buenos Aires, 2-7 Apr 62. [1963] [71]p. 56 refs.
Order from OTS or SLA $7.60 AEC-tr-5182

Trans. from mono. El Impacto de la Metalurgia Fisica en la Tecnologia, Buenos Aires, 1962.

DESCRIPTORS: Metallurgy, Chemistry, *Intermetallic compounds, Chemical reactions, *Atomic radii, Atomic orbitals, *Valence, *Chemical bonds, *Alloys, Phase studies, *Metallic crystals, Metals, *Radiation effects, *Neutron bombardment, Stresses, Elasticity.

Kukarkin, A. A. and Kitaev, B. I.
STUDY OF THE SOURCES OF PULSATIONS IN HOT-BLAST PRESSURE AT THE BLAST-FURNACE TUYERES. June/July 63, 2600 words.
Order from HB $6.50 HB-5897

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii] Chernaya Metallurgiya (USSR) 1963 [v. 6] no. 2, p. 31-38.

DESCRIPTORS: *Blast furnaces, Gas flow, Slags, Pressure, Velocity, Fuel injection.

Maiboroda, I. K.
EFFECT OF NATURAL AGING OF THE SAMPLE ON THE SPECTROGRAPHIC ANALYSIS OF FLUXED IRON-LIME SINTER. June/July 63, 800 words.
Order from HB $2.40 HB-5905

Trans. of Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 5, p. 557-558.

DESCRIPTORS: *Sinters, *Calcium compounds, Oxides, *Iron, Spectrographic analysis, Sampling, Aging (Materials).

Milichenko, S. L. and Aleksandrov, N. Ya.
MECHANIZED BRAZING OF HEAT-EXCHANGER TUBES. 21 Aug 63, 5p. JPRS: 20734.
Order from OTS $0.50 63-31584

Trans. of #Svarochnoe Proizvodstvo (USSR) 1963, no. 7, p. 28-29.

DESCRIPTORS: *Heat exchangers, Design, *Pipes, *Brazing, Electric welding, Dies, Mechanical working, Material forming, Copper, Stainless steel.

A new method of mechanized brazing was developed in which the tubes are drawn by a special mechanism through a tank containing a molten braze bath, and through a water-cooled, forming die which has one end submerged in the bath. The tubes pass through the bath (are wetted by the braze), then enter the die where the braze solidifies as the tube moves through the cooled portion of the die. The results obtained upon testing this method indicate a brazing rate of almost 3 meters/min, which is almost 20 times faster than by the manual oxy-acetylene method. Braze quality was good and working conditions were improved. An overall view of the 3 brazed tubes, produced by this method, is shown. Three main assemblies compose a special unit consisting of a tube-straightening device, the braze bath, and the drawing (pulling) mechanism. The electrical system synchronize switching on the motors of the take-up drum and screw conveyor, and are interconnected with the thermostat control in the bath. The circuit also provides for the necessary sequence of shutting off the mechanisms at the end of the brazing process.

Naidich, Yu. V. and Kolesnichenko, G. A.
INVESTIGATION OF THE WETTING OF GRAPHITE AND DIAMOND BY LIQUID METALS AND ALLOYS. PT. I. CONTACT ANGLES OF CERTAIN TRANSITION AND NON-TRANSITION METALS WITH GRAPHITE: THE WETTING OF GRAPHITE WITH Cu-Cr ALLOYS. June/July 63,. 2500 words.
Order from HB $7.50 HB-5940

Trans. of Poroshkovaya Metallurgiya (USSR) 1961, v. 1, no. 6, p. 55-60.

DESCRIPTORS: *Cutting tools, Chemical reactions, *Carbon, *Surface-active substances, *Graphite, Powders, *Diamonds, *Liquid metals, Copper alloys, Chromium alloys.

Nikolaev, A. N.
PRESSING AND ROLLING OF METAL POWDERS. June/July 63, 2900 words.
Order from HB $5.80 HB-5981

Trans. of Poroshkovaya Metallurgiya (USSR) 1963, v. 3, no. 1, p. 42-47.

DESCRIPTORS: *Powder metallurgy, Metals, Powders, Rolling mills, Material forming, Mechanical working, Porous metals, Density, Anisotropy, *Iron, Mechanical properties.

Nishima, T.
EFFECT OF BORON, CARBON, NICKEL AND CHROMIUM ON THE PROPERTIES OF BORON STAINLESS STEEL. Rept. 1 of Studies of Boron Stainless Steel for Nuclear Reactors. June/July 63, 1100 words.
Order from HB $3.85 HB-6027

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1495-1496.

DESCRIPTORS: *Nuclear reactors, *Stainless steel, *Boron, *Chromium alloys, *Nickel alloys, *Carbon, *Borides, Iron alloys, Mechanical properties.

Ostrik, P. N. and Rostovtsev, S. T.
EFFECT OF GAS-PHASE COMPOSITION ON THE REDUCTION KINETICS OF FLUXED SINTER. June/July 63, 3400 words.
Order from HB $8.50 HB-5755

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 9, p. 17-25.

DESCRIPTORS: Blast furnaces, Gases, Mixtures, *Composite materials, Chemical analysis, *Sinters, Reduction, Reaction kinetics, Hydrogen.

Pereverzev, V. K.
THE DEPOSITION OF VACUUM COATINGS BY MEANS OF ELECTRON BOMBARDMENT (Protsess Naneseniya Pokrytii v Vakuume s Primeneniem Elektronnoi Bombardirovki). Sep 63 [23]p. 11 refs. NASA Technical Trans. F-185.
Order from OTS $0.75 63-11705

Trans. of Akademiya Nauk SSSR. Institut Metallurgii. Trudy, 1962, no. 11, p. 209-220.

DESCRIPTORS: *Thin films, *Metal films, *Plating, Quality control, Evaporation, Condensation, *Sputtering, *Electron bombardment, Secondary emission, *Vacuum systems, Design.

The Electrophysics Laboratory of the Institute of Metallurgy built a special vacuum sphere in which it is possible to carry out the process of depositing thin films by the method of evaporating and condensing very high-melting substances in a high or superhigh vacuum using electron bombardment, together with control of the quality of the coating and the conditions of deposition. Several different forms of the deposition process were investigated in relation to a series of metals. The laboratory developed methods of studying the process of deposition of films of complex composition. (Author)

Petrova, G. N.
A STUDY OF POWDERED MAGNETITES, tr. by Gerald W. Freeman. 1961, 12p. 4 refs. Geodynamics Technical Trans. no. 102. Available from Geodynamics, Inc., P. O. Box 1258, Santa Monica, Calif. $1.00 as TT-102. When supply exhausted.
Order from OTS or SLA $1.60 62-16548

Trans. from [Akademiya Nauk SSSR. Izvestiya. Seriya Geograficheskaya i Geofizicheskaya, 1948, v. 12, no. 6.

DESCRIPTORS: *Magnetites, *Powder metallurgy, Grain structures (Metallurgy), Ferromagnetic materials.

The influence of the concentration and grain size of the ferromagnetic component, (magnetite of Gora Vysokaia) under ideal and normal magnetization on the magnetic properties of a powder, in particular its internal demagnetization factor is examined. The limits of applicability of the formula for the computation of the susceptibility of mixtures of ferromagnetic and nonferromagnetic powders are analyzed. (Author)

Plöger, Ulrich.
DETERMINATION OF SURFACE TEMPERATURES WITH INFRARED EXPLOSURES. [1963] 9p.
Order from SLA $1.10 63-18426

Trans. of [Archiv für das Eisenhüttenwesen (West Germany) 1960, v. 31, no. 2, p. 87-90] (Verein Deutscher Eisenhüttenleute (West Germany). [Berichte]-482).
Other translations are available from SLA $1.60 as 61-10546 [1961] [16]p. from K-H $15.00 as K-H-2068, Feb 61, 12p.

DESCRIPTORS: *Open hearth furnaces, Roofs, Surface temperatures, Determination, *Infrared photography.

For abstract see Technical Translations 6: 444, 1961.

Pol'kin, S. I.
DENSITY OF THE ATTACHED OLEIC ACID LAYER AND ITS EFFECT ON CASSITERITE FLOATABILITY (Izuchenie Plotnosti Zakrepivshegosya Sloya Oleinovoi Kisloty i Flotiruemosti Kassiterita). July 63 [6]p. RTS 2105.
Order from OTS or SLA $1.10 63-23221

Trans. of mono. Flotatsiya Rud Redkikh Metallov i Olova (Flotation of Ores of Rare Metals and Tin) [Moscow] 1960, p. 82-84.

DESCRIPTORS: *Flotation, *Ores (Metal sources), *Rare earth elements, *Tin compounds, Oxides, Crystallization.

Sakai, C. and others.
USE OF OXYGEN FOR BETTER CONBUSTION IN BLAST-FURNACE STOVES, IN CONJUNCTION WITH OIL INJECTION INTO THE BLAST FURNACE. June/July 63, 1200 words.
Order from HB $4.20 HB-6017

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 294-297.

DESCRIPTORS: *Blast furnaces, Heaters, *Oxygen, *Combustion, *Fuel injection, *Fuel oil, Waste gases, Wastes (Industrial), Economics.

Schiele, C. and Weiner, R.
SUBMICROSCOPIC STRUCTURE OF THIN ELECTROPLATES DEPOSITED UNDER CONTINUOUS ULTRASOUND. June/July 63, 2900 words.
Order from HB $6.70 HB-5987

Trans. of Metalloberfläche (West Germany) 1961, v. 15, no. 5, p. 130-133.

DESCRIPTORS: *Ultrasonic radiation, *Electrodeposition, Microanalysis, Microstructure, *Metal films, Electron microscopes, Electrolytes, Vibration.

Schröter, Karl.
FRONTIERS OF METALLURGY (Grenzgebiete der Metallographie). [1963] [17]p. (foreign text included) 3 refs.
Order from SLA $1.60 63-18090

Trans. of Zeitschrift für Metallkunde (Germany) 1931, v. 23, no. 7, p. 197-201.

DESCRIPTORS: *Tungsten, *Powder metallurgy, Sintering, Wire, Recrystallization, Iron, Nickel, Copper, *Metal coatings, Metallography, *Glass, Lighting equipment.

Described are processes for the investigation of powdered wolfram, processes during its sintering, as well as developments during recrystallization, and appearances of the surface layers of thin wolfram wires. Further it is shown how metallographic methods may be applied to the investigation of glass. (Author)

Sorokina, N. N. and Golubeva, V. M.
SPECTROGRAPHIC DETERMINATION OF RARE-EARTH ELEMENTS IN STEEL AND ALLOYS.
June/July 63, 550 words
Order from HB $2.20 HB-5966

Trans. of Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 5, p. 559-560.

DESCRIPTORS: Alloys, *Steel, *Rare earth elements, Spectrographic analysis, Metals, Sensitivity, Nickel alloys.

Stefanovich, M. A.
INFLUENCE OF PRESSURE ON GAS FLOW IN BLAST FURNACES. [1963] 29p. 10 refs.
Order from OTS or SLA $2.60 63-16874

Trans. of Stal' (USSR) 1955, v. 15, p. 398-407.

DESCRIPTORS: *Blast furnaces, *Gas flow, Pressure.

Pressure drop in a blast furnace is inversely proportional to the gas pressure, assuming a constant distribution and composition of the charge column. An increased top pressure decreased in a blast furnace the angles of repose in a coke charge, the size of the burden at the periphery, and chimney formation, while it increases the amount of fine fractions remaining in the furnace and particularly at the periphery. Theoretically, an increased top pressure is more effective when when the regional pressure is lower and when the defining level is located high in the furnace. The statement that only considerable increase of top pressure is effective is not supported by either theoretical or practical data. Reducing of a charge size remaining in the furnace and particularly at the periphery lowers the efficiency of the burden under high pressure. The change to high top pressure does not diminish the requirements for a proper preparation of the burden. (Author)

Takao, Z. and others.
SPECTROGRAPHIC DETERMINATION OF LANTHANUM AND CERIUM IN PLAIN CARBON STEEL.
June/July 63, 1100 words.
Order from HB $3.85 HB-5968

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1511-1513.

DESCRIPTORS: *Steel, Carbon, *Cerium, *Lanthanum, Rare earth elements, Oxides, Powders, Graphite, Spectrographic analysis, Excitation, Chemical analysis.

Tylkina, A. and Povarova, K. B.
THE ALL-UNION CONFERENCE ON RHENIUM (NO. 2) [MOSCOW, 19-21 NOV 62]. 20 June 63, 4p. JPRS: 19761.
Order from OTS $0.50 63-31079

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Metallurgiya i Gornoe Delo, 1963, no. 2, p. 174-176.

DESCRIPTORS: *Conferences, *Rhenium, Rhenium alloys, Rhenium compounds, Ores (Metal sources).

Watanabe, Koichi and Asano, Kosuke.
FURNACE BODY OF ALUMINUM ELECTROLYTIC FURNACE. July 63, 7p.
Order from SA $16.00 SA Code-P-181

Trans. of published Japanese patent 12901/1962, cl. 10-D-122.3, appl. no. 51156/1960 filed 29 Dec 60, pub. 4 Sep 62, by Nihon Keikinzoku Sogokenkyujo Co., Ltd.

DESCRIPTORS: *Furnaces, *Electrolytic cells, Design, *Aluminum, Production, Aluminum compounds, Oxides, Electrolysis.

Watanabe, Sh. and others.
COMPUTERIZED CONTROL OF THE END-POINT TEMPERATURE IN THE BASIC OXYGEN LD PROCESS
June/July 63, 1300 words.
Order from HB $5.60 HB-5936

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 410-412.

DESCRIPTORS: *Computers, Control, Furnaces, *Oxygen, Temperature, *Analog computers, Industrial plants, Japan.

Weilandt, Bernhard, Maetz, Helmut, and Ölsen, Willy.
THE EFFECT OF BASIC OXIDES IN DESULFURIZATION IN THE BLAST FURNACE. Doctoral thesis Technische Hochschule, Aachen (West Germany). [1963] [37]p. 28 refs.
Order from SLA $3.60 63-16833

Trans. of Archiv [für das] Eisenhuttenw[esen] (West Germany) 1952, v. 23, p. 163-172.

DESCRIPTORS: *Blast furnaces, *Desulfurization, Oxides, Slags, Silicates, *Iron, Sulfides, Solubility, Reduction, Melting.

For the desulfurization of iron with fluid silicate slags, the solubility behavior of the sulfide in the iron melt and in the slag and the reducing conditions are decisive. It was found that with increasing reaction time the sulfur content of the pig iron falls and the silicon content

increases. In the same reducing action, the sulfur content of the pig irons lies higher the weaker is the basicity of the metal oxide. If in a calcium metasilicate slag the calcium oxide is replaced in stoichiometric amounts by magnesium, strontium, barium or sodium oxide, the desulfurizing effect is made less by magnesiun oxide but raised by strontium barium and especially sodium oxide. This is explained through the formation of stable silicates in the fluid slag. (Author)

Wentrup. Hanns and Reif, Otto.
ON THE SOLUBILITY OF NITROGEN IN MOLTEN IRON WITH CHROMIUM, MANGANESE AND NICKEL ADDITIONS. [1963] [17]p. 6 refs.
Order from SLA $1.60 63-16837

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1949, v. 20 [no. 11/12] p. 359-363.

DESCRIPTORS: Additives, *Nickel alloys, *Manganese alloys, *Chromium alloys, *Iron alloys, Liquid metals, *Nitrogen, Solubility, High temperature research, Oxygen.

The receptivity of iron-chromium, iron-manganese, iron-nickel, iron-chromium-manganese, and iron-chromium-nickel melts for nitrogen was investigated at 1600°C and sometimes also at 1700°C, and at the solidification point. Chromium and manganese increase the nitrogen solubility in iron, while nickel lowers it. Temperature increase is linked with a decrease of nitrogen solubility, as is solidification under nitrogen. Addition of manganese to iron-chromium melts raises the nitrogen capacity very strongly, while it is decreased by nickel. Raising the temperature causes a decrease in solubility. Solidification of iron-chromium-manganese and iron-chromium-nickel melts is associated with an evolution of oxygen. (Author)

Zaidel', A. N. and others.
CERTAIN APPLICATIONS OF THE SPECTRO-ISOTOPE DILUTION METHOD FOR DETERMINING GASES IN METALS. June/July 63, 1300 words.
Order from HB $2.80 HB-6024

Trans. of Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 5, p. 693-695.

DESCRIPTORS: Metals, Gases, *Hydrogen, *Nitrogen, *Iron, *Iron alloys, Vacuum furnaces, *Isotopes, Zinc, Cadmium, *Spectroscopy, Chemical analysis.

Zasuya, P.
DISMINUCION DE LA SOLIDEZ DE SOLDADURA ENTRE SI DE LAS HOJAS DE LATA MEDIANTE LA ACCION DE BAJAS TEMPERATURAS (Umen'shenie Prochnosti Svarok Zhesti Pod Deistviem Nizkikh Temperatur) (Decrease of Tinplate-Tinplate Welding Strength Due to Low Temperatures). 10p. 7 refs.
CID: 62-201.
Order from OTS, ETC or CID $0.80 62-29201

Trans. in Spanish of Kholodil'naya Tekhnika (USSR) 1958, v. 35, no. 6, p. 27-29.

DESCRIPTORS: Temperature, *Welding, *Tin alloys, Mechanical properties.

Ferrous Metals

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 133. 19 July 63, 34p.
JPRS: 20261.
Order from OTS $1.00 63-31336

Trans. of #Metallurg (USSR) 1963 [v. 8] no. 6, p. 1-3, 22-25, 34-35, 40; #Stal' (USSR) 1963 [v. 23, no. 6] p. 523-528.

DESCRIPTORS: *Industrial production, *Metallurgy, *Conferences, *Rolling mills, Automation, Industrial plants, *Bearings, *Steel, *Smelting, Oxides.

Contents:
All-Union Conference on Automation of Ferrous Metallurgy Industrial Processes, by V. A. Gerasimenko
Modern rolling mills and their equipment, by G. L. Khimich and A. V. Tret'yakov
We must give more attention problems of automation UDK 669.002.5, by D. F. Gladkii
Chronicle-events-facts
Mechanics of formation and distribution of oxide inclusions in ball-bearing steel, by S. G. Voinov.

IMPROVED MEDIUM COBALT HEAT-RESISTING STEEL. 18 June 63, 6p. 7108/62 Japan.
Order from INT $18.00

Trans. of Japanese patent 7108/62 by Tokushu Seikoo Co. Ltd., filed 8 Apr 60.

DESCRIPTORS: *Steel, *Cobalt alloys, *Heat resistant metals and alloys.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 139. 6 Aug 63, 30p.
JPRS: 20497.
Order from OTS $1.00 63-31453

Trans. of Narodnoe Khozyaistvo Kazakhstana (USSR) 1963, [v. 21] no. 3, p. 14-15; from Ekonomicheskaya Gazeta (USSR) 1963, no. 17[90] p. 11, 42; no. 18[91], no. 19[92] p. 16; Pravda Ukrainy (USSR) 1963, 20 Apr; Rabochaya Gazeta (USSR) 1963, 4 May.

DESCRIPTORS: *Industrial production, *Metallurgy, Industrial equipment, Industrial plants, Construction, Supplies, Management engineering, Economics, Steel, Rods, Iron alloys, Silicon alloys, Drilling machines, Fuel consumption, Open hearth furnaces, *Thallium, Recovery, Manganese, Ores (Metal sources), Deposits.

Contents:
Failure of Dnepropetrovsk metallurgical equipment plant to complete new shops
Giant new continuous-operation rod mill at the "250" plant imeni Kirov

Design and supply difficulties delay production at the Almaznyaskii ferroalloy plant, by G. Zhernovoi
Standardized and more durable drilling equipment needed for the KMA, by F. Efimov and G. Rubtsov
Metallurgical plants save fuel with waste-heat and evaporating cooling installations, by V. Kaplun
More modern equipment introduced at the Azovstal' plant, by S. Ivanenko
Proposal for recovering thallium from the manganese ores of the Dzhezdinskoe deposit, by N. Ishmukhamedov and others.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 142. 16 Aug 63, 27p. JPRS: 20572.
Order from OTS $0.75 63-31544

Trans. of 16 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Iron alloys, Castings, Procurement, Industrial plants, Electric power production, Coke, Steel, Metal plates, Sintering, Pipes, Open hearth furnaces, Engineering personnel, Oxygen, Construction, Economics, Ores (Metal sources), Machines, Welding, Gas turbines, Locomotives.

Contents:
The importance of scrap metal for the national economy, by A. Savranchenko and Ya. Buras
Rigidity of regulations controlling delivery and use of cast iron shavings, by R. Anpilogov
A suggestion to review and to change the system of paying authorized representatives of Rosglavvtormet, by Kichev and others
Advertisement of Min'yar metal products and metallurgical plant
Zestafoni ferroalloys plant achieved considerable savings of electric power and raw materials, by N. Fevralev
New coke battery at the Cherepovets Metallurgstroi plant
Steel plate shortage slows down mill, by V. Ermolaev and others
A new sintering mill in Lipetsk
Increased pipe production at Chelyabinsk
A new open-hearth furnace at the Izhorskii plant
Awards made by the Presidium of the Supreme Soviet USSR
New oxygen converter shop at the Nizhnii-Tagil metallurgical plant
The building of a new converter shop at the Novolipetsk metallurgical plant
Workers of the Yuzhno-Ural'skii economic region decide to exceed their production plan by a billion rubles during the Seven-Year Plan
Main electric sub-station is put into operation at the Kachkanar ore enrichment combine
More than thirty new machine models will be manufactured this year in the Moskovskii economic region.

Babarykin, N. N.
PROCESSES OF THE REDUCTION OF OXIDES AND INITIAL FORMATION OF SLAG IN BLAST FURNACES OF THE MAGNITOGORSK METALLURGICAL COMBINE. [1963] 27p. (figs. omitted) 5 refs.
Order from OTS or SLA $2.60 63-16235

Trans. of mono. [Trudy Soveshchaniya Sozvannogo Institutom Metallurgii Ural'skogo Filiala Akademii Nauk SSSR i Magnitogorskim Metallurgicheskim Kombinatom (Transactions of the Conference of the Institute of Metallurgy of the Ural Filial of the Academy of Sciences of USSR and of the Magnitogorsk Metallurgical Combine) 23-27 Mar 55, Sverdlovsk, 1956, p. 251-275].

DESCRIPTORS: Conferences, *Metallurgy, *Blast furnaces, *Slags, *Oxides, Smelting, Reduction, Sampling, Industrial plants, *Iron compounds.

Beaujard, L. and Mondot, J.
TWO EXAMPLES OF NONDESTRUCTIVE TESTING OF STEEL PARTS. June/July 63, 3900 words.
Order from HB $9.80 HB-5689

Trans. of Revue Universelle des Mines (France) 1962 [v. 105] ser. 9, v. 18, no. 6, p. 465-470.

DESCRIPTORS: *Steel, Sheets, Ultrasonic radiation, *Non-destructive testing, Electromagnetic waves, Test methods.

Becker, I. E. and Beck, H.
ON THE REACTION BETWEEN STEEL AND SLAG DURING TAPPING AND POURING, PT. 1. June/July 63, 4400 words.
Order from HB $9.80 HB-5554

Trans. of Technische Mitteilungen Krupp (West Germany) 1961, v. 19, no. 4, p. 208-213.

DESCRIPTORS: *Steel, *Slags, Chemical reactions, Processing, Quality control, *Phosphorus.

Bertram, Walter.
THE MANUFACTURE OF THOMAS STEEL WITH ADDITION OF LIMESTONE AND OXYGEN. [1963] 9 refs.
Order from SLA $1.10 63-16829

Trans. of Stahl und Eisen (West Germany) 1952, v. 72, 28 Feb, p. 243-245 (Verein Deutscher Eisenhüttenleute (West Germany). [Berichte]-498).

DESCRIPTORS: *Steel, Additives, Limestone, Oxygen.

Through the use of oxygen, in the Thomas plant, there is being blown in current production, from the usual pig iron with 0.4% Si and a phosphorus content of 2.25%, a steel consistently having a maximum of 0.45% P and 0.004 to 0.007% nitrogen, which in its composition and in its properties for many purposes is equal to the high value Siemens-Martin steels. (Author)

Detert, K. and Schmidt-Krayer, C.
EFFECT OF DEFORMATION OF AUSTENITE PRIOR TO MARTENSITE TRANSFORMATION IN LOW ALLOY STRUCTURAL STEELS. Aug 63.
Order from BISI £5 5s BISI-3310

Trans. of Stahl [und] Eisen (West Germany) 1963, v. 83, no. 8, p. 449-457.

DESCRIPTORS: *Steel, Structural properties, Alloys, Transformations, *Martensite, *Austenite, Deformation.

Dunk, G. von der and Meuthen, B.
THE USE OF CHEMICAL AND PHYSICAL METHODS IN THE CONTROL OF SULFURIC ACID AND HYDROCHLORIC ACID PICKLING BATHS. June/July 63, 5200 words.
Order from HB $12.50 HB-5802

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 25, p. 1790-1796.

DESCRIPTORS: *Pickling compositions, *Hydrochloric acid, *Sulfuric acid, Control, Chemical analysis, Density, Volumetric analysis, *Iron, Electrical conductance.

Fuchs, E.
RETAINED AUSTENITE AND ITS EXAMINATION IN HARDENED STEEL. Aug 63.
Order from BISI £4 10s BISI-3343

Trans. of Kohaszati Lapok (Hungary) 1961, v.[16](94) no. 2, p. 57-61.

DESCRIPTORS: *Steel, Hardness, *Austenite, Test methods.

Gankin, V. B. and Oiks, G. N.
THE CRYSTALLIZATION MECHANISM OF RIMMING STEEL IN CONTINUOUS CASTING. June/July 63, 2900 words.
Order from Hb $5.80 HB-5908

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1963 [v. 6] no. 1, p. 34-41.
Another trans. is available from OTS $0.75 in 63-21578, JPRS-18710, 16 Apr 63 [24]p.

DESCRIPTORS: *Steel, Casting, Castings, Crystallization.

Guglin, N. N. and others.
CONTINUOUS CASTING OF [KILLED] PLAIN CARBON STEEL INTO LARGE SQUARE BLOOMS. June/July 63, 4600 words.
Order from HB $12.50 HB-5605

Trans. of mono. Stal': Sbornik Statei, Moscow, 1961, p. 177-193.

DESCRIPTORS: *Steel, *Casting, Mechanical properties, Microstructure, Crystallization.

Guglya, V. G. and others.
ON THE ACCURACY OF ORE ANALYSIS BY THE BETA-REFLECTION METHOD. June/July 63, 1000 words.
Order from HB $2.80 HB-6025

Trans. of #Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 5, p. 579-580.

DESCRIPTORS: Beta particles, Reflection, *Ores (Metal sources), *Iron, Metallurgical laboratories.

Herlitz, H.
REACTIONS DURING IMMERSION OF IRON OXIDE CRYSTALS IN LIQUID IRON AT VARIOUS TEMPERATURES. June/July 63, 1100 words.
Order from HB $3.30 HB-5954

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1963, v. 147, no. 3, p. 348-351.

DESCRIPTORS: *Iron compounds, Oxides, *Crystals, *Liquid metals, *Ores (Metal sources), Kinetic reactions, Reduction, Immersion heaters, *Magnetite.

Isaev, E. I. and others.
DEVELOPMENT OF A RATIONAL DESIGN OF NOZZLES AND STOPPER HEADS FOR THE CONTINUOUS CASTING OF STEEL. June/July 63, 2400 words.
Order from HB $4.80 HB-5909

Trans. of Izvest[iya] Vysshikh Uchebnykh Zavedenii. Chern[aya] Met[allurgiya] (USSR) 1963 [v. 6] no. 1, p. 42-48.
Another trans. is available from OTS $0.75 in 63-21578, JPRS-18710, 16 Apr 63 [24]p.

DESCRIPTORS: *Steel, Casting, Castings, Plug nozzles, Design, Nozzles, Fluid flow.

Jaboulay, B. E.
DETERMINATION OF SULFUR BY GASEOUS EVOLUTION IN STEELS, IRONS AND CAST IRONS. [1963] 8p. 6 refs.
Order from SLA $1.10 63-16823

Trans. of Chimie Anal[ytique] (France) 1950, v. 33, p. 48-50.

DESCRIPTORS: *Iron alloys, *Castings, *Iron, *Steel, *Sulfur, Chemical analysis, Gaseous diffusion separation, Thermal diffusion separation.

Sulfur in steels and cast irons exists either as FeS or Fe_2S_3. Sulfur present as FeS is liberated by dilute or concentrated HCl, that as Fe_2S_3 is only partly liberated according to the equation

$$Fe_2S_3 + 2\,HCl = FeCl_2 + H_2S + FeS_2.$$

High speed steels contain part or all of the S as Fe_2S_3. By heating at 1100°, then reheating at 850, this sulfur is partly converted to FeS, giving an equimolecular mixture, so that liberation of the S present as FeS yields exactly two-thirds of the total sulfur. Sulfur is

evolved by dissolving the sample in hot conc. HCl, precipitating as ZnS from a solution containing 25g Zn acetate + 1cc acetic acid per liter and dissolving with excess standard iodine and back titrating with sodium hyposulfite, the standard solutions being adjusted to reduce calculation to a minimum. (Translator's summary).

Jicinsky, J.
DEVELOPMENT OF BASIC OXYGEN LD STEEL PLANTS. June/July 63, 6800 words.
Order from HB $17.00 HB-5366

Trans. of Hutnicke Listy (Czechoslovakia) 1961, v. 16, no. 10, p. 704-710.

DESCRIPTORS: *Iron industry, *Steel industry, *Oxygen, Open hearth furnaces.

Knüppel, H. and Stumpf, A.
INTEGRATED QUALITY CONTROL, A NEW WAY OF SOLVING OLD PROBLEMS. June/July 63, 6500 words.
Order from HB $18.50 HB-5746

Trans. of Stahl und Eisen (West Germany) 1962, v. 82, no. 22, p. 1552-1560.

DESCRIPTORS: *Steel industry, Quality control, Mathematical analysis, Costs, Computers, *Iron industry, Blast furnaces, Coke.

Krainer, E. and Posch, K.
STEELS FOR LOW-TEMPERATURE SERVICE. May 63, 6500 words.
Order from HB $14.50 HB-5185

Trans. of Berg- und Hüttenmännische Monatshefte (Austria) 1960, v. 105, no. 11, p. 268-278.

DESCRIPTORS: *Steel, Heat treatment, Low temperature research, Mechanical properties, Transition temperature, Alloys, Austenite.

Kuhn, Rudolf.
DESCALING BY MEANS OF SALT BATHS: THE SODIUM HYDRIDE-AND THE KOLENE-15 PROCESSES (Salzbadverfahren zum Entfernen von Zunder: das Natriumhydrid- und das Kolene -15-Verfahren). [1962] [8]p. (foreign text included).
Order from SLA $1.10 62-18536

Trans. of Draht (West Germany) 1958, v. 9 [no. 10] p. 390-391.

DESCRIPTORS: *Scale, Countermeasures, *Steel, Heat treatment, *Sodium compounds, *Hydrides, Automation.

Kuroedov, V. A.
NON-OXIDISING HEATING OF STEEL IN OPEN-FLAME FURNACES. Apr 60 [15]p. 2 refs. BISI Trans. 1541; [DSIR] NLL M. 4924.
Order from OTS or SLA $1.60 62-32083

Trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1959, v. 1, no. 1, p. 25-31.
Another trans. is available from OTS or SLA $1.60 as 62-14546 [1960] [14]p.

DESCRIPTORS: *Steel, Heat treatment, Costs, *Scale, Electric furnaces, Dies, Forging, Heat transfer, Waste gases, Mathematical analysis.

The most practical method of non-oxidizing heating of steel was that which incorporated high preheating of the primary air to over 900°C by the use of regenerators. Regenerative checkers, heat transfer, and the operation of regenerators are analyzed mathematically. Operation of the experimental open flame furnace is described. Steel was heated without scale formation in an open flame regenerative furnace up to a forging temperature of 1200°C.

Mietzner, K.
MEASURING THE SURFACE ROUGHNESS OF COLD-ROLLED STRIP. Aug 63.
Order from BISI £5 5s BISI-3351

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, [no. 6] p. 336-344.

DESCRIPTORS: *Steel, Cold working, Rolling mills, Surface properties.

Muraki, J. and others.
CONTINUOUS AUTOMATIC ULTRASONIC INSPECTION OF HEAVY STEEL PLATE. June/July 63, 1100 words.
Order from HB $4.50 HB-5974

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 583-585.

DESCRIPTORS: Sheets, Metal plates, *Steel, *Ultrasonic radiation, Automatic, Non-destructive testing.

Narita, K. and Nasu, S.
DETERMINATION OF HAFNIUM IN STEEL. June/July 63, 1550 words.
Order from HB $5.40 HB-5967

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 631-632.

DESCRIPTORS: *Steel, *Hafnium, Chemical analysis, Absorption spectrum, Metallurgical laboratories, Phenols, Methyl radicals.

Rozentreter, A. B.
STATUS OF CHINA'S FERROUS METALLURGY. [1963] 5p. (figs. omitted).
Order from OTS or SLA $1.10 63-16873

Trans. of #Metallurg (USSR) 1959 [v. 4] no. 10, p. 32-36.

DESCRIPTORS: *China, *Metallurgy, *Industrial production, Steel, Iron, Ores(Metal sources), Blast furnaces, Rolling mills.

Sato, R. and Tahata, N.
ON WIDENING THE APPLICABILITY OF WATER-COOLED BASIC-OXYGEN LD FURNACES. Pt. 6 of Study of Semi-Permanent Wall-Type Furnaces with Automatic Water Cooling. June/July 63, 1700 words.
Order from HB $6.00 HB-5356

Trans. of Tetsu to Hagane (Japan) 1961, v. 47, no. 10, p. 1348-1350.

DESCRIPTORS: *Steel industry, *Furnaces, *Oxygen, *Cooling, *Water, Automatic, Refractory materials.

Schauff, Erich.
INFLUENCE OF HEATING IN A CONTINUOUS FURNACE ON THE STRENGTH OF VARIOUSLY TREATED DEEP DRAWING (Einfluss des Glühens im Durchziehoden auf die Festigkeitseigenschaften von Verschieden Vorbehandeltem Tiefziehbandstahl). [1963] [21]p. (foreign text included) 15 refs.
Order from SLA $2.60 63-16780

Trans. of Stahl und Eisen (West Germany) 1949, v. 69, no. 2, p. 49-53 (Verein Deutscher Eisenhüttenleute (West Germany). Berichte-663.

DESCRIPTORS: *Steel, Mechanical working, Tensile properties *Heat treatment, *Recrystallization, *Rolling mills, *Heating plants, Furnaces.

Schenck, H.
METHOD FOR THE RAPID DETERMINATION OF THE MEAN CONTENT OF FERROUS OXIDE IN OPEN HEARTH HEAT. [1963] [4]p.
Order from SLA $1.10 63-16771

[Condensed] trans. of Stahl und Eisen (Germany) 1933 [v. 53] p. 1049-1052.

DESCRIPTORS: *Steel, Quantitative analysis, *Iron compounds, *Oxides, Open hearth furnaces, Carbon.

Schumacher, H.
FURTHER DEVELOPMENTS IN THE REDUCTION OF SALZGITTER ORE. Jan 63.
Order from BISI BISI-3092

Trans. of mono. (doctoral thesis) Rheinisch-Westfälische Technische Hochschule, n.p. (West Germany).

DESCRIPTORS: *Iron industry, *Ores (Metal Sources), Reduction (Chemistry), Iron, Blast furnaces, Processing, Costs.

Segre, Uberto.
REDUCTION OF IRON ORES WITH NATURAL GAS. [1963] [32]p. 6 refs.
Order from SLA $3.60 63-16846

Trans. of reprint of Metano: [Petrolio e Nuove Energie] (Italy) 1954, v. 8, no. 5, p. 13-25.

DESCRIPTORS: *Ores (Metal sources), *Iron, Reduction (Chemistry), *Natural gas.

Stalhed, John.
THE MANUFACTURE OF SPONGE IRON BY THE WIBERG-SODERFORS PROCESS. (with discussion). [1963] [28]p. 10 refs.
Order from SLA $2.60 63-16834

Trans. of Stahl und Eisen (West Germany) 1952, v. 72, p. 459-466 (Verein Deutscher Eisenhüttenleute (West Germany). [Berichte]-258).

DESCRIPTORS: *Iron, *Ores (Metal sources), Production, Sweden.

Wolff, H. and Schneider, R.
COOLING OF WIDE (STEEL) STRIP COILS AFTER ANNEALING IN A BELL-TYPE FURNACE. June/July 63, 4000 words.
Order from HB $9.80 HB-5893

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, no. 6, p. 345-350.

DESCRIPTORS: Furnaces, Annealing, *Coils, *Steel, Cooling.

Yebra Montagut, Joaquin de.
APPARATUS FOR THE DETERMINATION OF SULFUR IN IRON AND STEEL IN FOUNDRIES (Aparato para la Determinacion del Azufre en Fundiciones Hierros y Aceros). [1963] [5]p. (foreign text included).
Order from SLA $1.10 63-16769

Trans. of Afinidad (Spain) 1949, v. 26, p. 200-201.

DESCRIPTORS: Foundries, *Steel, *Iron, *Sulfur, Chemical analysis, Metallurgical laboratories.

Yudovich, S. Z.
USE OF PROTECTIVE COATINGS (OF WATERGLASS) FOR DECREASING STEEL DECARBURIZATION. Feb 58 [8]p. GKN Trans-623; BISI Trans. no. 859p [DSIR] NLL M. 4113.
Order from OTS or SLA $1.10 62-24120

Trans. of Stal' (USSR) 1957, v. 17 [no. 1] p. 69-71.

DESCRIPTORS: *Steel, *Carbon, Coatings, Steel castings.

An investigation was made on surface decarburization of finished steel based on the following factors: (1) the time the billets remain in the furnaces and in the various furnace zones; (2) the temperature attained by the steel; (3) the composition of the furnace atmosphere; and (4) the depth of the decarburized layer on the steel before heating. Experiments were performed to determine the behavior of waterglass coatings with heating and scaling. The use of protective coatings of waterglass during heating lowered the rate of decarburization of all steels and made the decarburization more uniform around the circumference. These coatings produced their best effect on chromium steels.

Zimmer, K.-O., Walden, K. and others.
PRODUCTION OF OPEN HEARTH STEEL WITH PHOSPHORUS RICH PIG IRON BY TOP BLOWING WITH OXYGEN. July 63.
Order from BISI £3 15s BISI-3258

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, no. 7, p. 382-387 ([Verein Deutscher Eisenhüttenleute (West Germany). Berichte]-758).

DESCRIPTORS: *Oxygen, *Castings, *Iron, *Phosphorus, *Steel, Open hearth furnaces.

Nonferrous (except light) Metals

MANUFACTURING METHOD FOR SPONGY SILVER. 9 July 63, 7p. 6720/56 Japan.
Order from INT $21.00

Trans. of Japanese patent 6720/56 by Kagaku Kenkyusho Co., Ltd., filed 26 July 54.

DESCRIPTORS: *Silver, Surfaces, Manufacturing methods, *Porous metals.

METHOD FOR TREATING COPPER-CONTAINING NICKEL SULPHIDE ORE. 24 June 63, 3p. 15670/60 Japan.
Order from INT $9.00

Trans. of Japanese patent 15670/60 by Sumitomo-Kinzoku Koozan Co. Ltd., filed 5 Nov 58.

DESCRIPTORS: *Ores (Metal sources), Nickel compounds, Sulfides, *Copper, Metallurgy.

METHOD OF ACCELERATING CAUSTIC ALKALI MELTING TREATMENT FOR IRON ORE CONTAINING NICKEL, COBALT AND CHROMIUM. 20 June 63, 5p. 5609/60 Japan.
Order from INT $13.50

Trans. of Japanese patent 5609/60 by Yawata Seitetsu Co. Ltd., filed 27 June 58.

DESCRIPTORS: *Ores (Metal sources), Alkali metal compounds, Melting, *Nickel, *Cobalt, *Chromium, Processing, *Iron.

METHOD OF TREATING IRON ORE CONTAINING NICKEL, COBALT AND CHROMIUM BY CAUSTIC ALKALI MELTING PROCESS. 20 June 63, 5p. 5608/60 Japan.
Order from INT $15.00

Trans. of Japanese patent 5608/60 by Yawata Seitetsu Co. Ltd., filed 9 May 58.

DESCRIPTORS: *Iron, *Ores (Metal sources), Alkali metal compounds, Melting, *Nickel, *Cobalt, *Chromium, Processing.

NICKEL ANODES. May 62 [5]p. [DSIR] NLL M. 3951.
Order from OTS or SLA $1.10 63-19878

Trans. of USSR Standards GOST 2132-58 (superseded by GOST 2132-43) approved 13 Oct 58, introduced 1 Apr 59.

DESCRIPTORS: *Anodes, *Nickel, Standards, Mechanical working, Plating.

The standard applies to hot-rolled nickel anodes employed in nickel plating.

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 72. 30 July 63, 7p. JPRS: 20423.
Order from OTS $0.50 63-31420

Trans. of Promyshlennost Armenii (USSR) 1963, [v. 6] no. 4, p. 74; Razvedka i Okhrana Nedr (USSR) 1963 [v. 29] no. 5, p. 1ff; Verkhovnyi Sovet. Vedomosti (USSR) 1963 [v. 26] no. 24, p. 655-656; and 14 selected short items from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Aluminum, Bauxite, Copper, Zinc, Gold, Manganese, Mercury, Molybdenum, Tin, Asbestos, Minerals, Ores (Metal sources), Ores (Non-metallic).

Contents:
Aluminum, bauxite, copper zinc
Gold, manganese, mercury, molybdenum and tin
Vermiculite and asbestos
Survey of USSR metallic and nonmetallic minerals, by A. V. Sidorenko.

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 73. 19 Aug 63, 69p. JPRS: 20696.
Order from OTS $2.00 63-31562

Trans. of Gornyi Zhurnal (USSR) 1963, no. 6, p. 61-62; Smena (USSR) 1963 [v. 40] no. 11, p. 10-12; and 13 selected articles from 1963 issues of 6 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Labor, Education, Mica, Minerals, Bauxite, Geology, Ores (Metal sources), Alloys, Economics, Scheduling, Construction, Labor unions, Machines, Automation, Drilling machines, Rhenium, Magnesium alloys.

Contents:
Dzhetygara communists discuss need for education in labor, by A. Mashin and V. Proletkin
The mica lost in the foundations of the Mamsko-Chuyskie mines, by V. M. Sedykh
The search for minerals must be intensified, by A. Sidorenko
The romantic trail blazers to the Arkalyk industrialization, by R. Kvyatkovskii
Nonferrous metal byproducts should not be wasted, by M. Dashevskii and I. Zikeev
The highly progressive Moscow combine of hard alloys, by Pavel Il'ich Tabalov
Lack of progress in the introduction of fuming installations, by E. Malikov
Construction extends to the transpolar tundra, by Vladimir But and Boris Semenov
Trade union promotes efficiency, by V. Lopukhov
Progress in nonferrous metal processing, by I. Voronov
Inferior boring bits, by I. Spodar' and V. Lobanov
Rhenium, a rare and superior metal, by V. Pokrovskaya and V. Stantso
Vanishing metal deliveries
News briefs.

Avarbe, R. G., Avgustinik, A. I. and others.
PHASE DIAGRAM OF THE Hf-HfC SYSTEM, tr. by Helen Chick and N. H. Krikorian. 23 Jan 63, 9p. 13 refs.
Order from OTS or SLA $1.10 AEC-tr-5645

• Trans. of #Zhurnal Prikladnoi Khimii (USSR) 1962, v. 35 [no. 9] p. 1976-1980.

DESCRIPTORS: *Hafnium, Hafnium compounds, *Carbides, Hafnium alloys, Carbon alloys, *Phase studies, *Crystal lattices, Hardness, Melting, X-ray diffraction analysis, Metallography.

On the basis of temperature measurements of incipient melting and X-ray and metallographic studies on the Hf-Hf-HfC system, a phase diagram in the range 11.8 - 50 atom per cent carbon was constructed. The presence of a peritectic was established at 2820 ± 50°, with a limiting carbon concentration of about 34 atom per cent. The large solubility of carbon in α-Hf, increasing with increasing temperature to 18 atom per cent carbon at 2820°, was experimentally established. This was accompanied by an increase of lattice parameters; the microhardness of the solution was a linear function of the carbon concentration, decreasing as the carbon concentration decreased. (Author)

Jakesova, L. and others.
SOME PRINCIPLES GOVERNING THE COMPACTION OF URANIUM DIOXIDE (POWDERS). June/July 63, 2100 words.
Order from HB $6.30 HB-5921

Trans. of Hutnicke Listy (Czechoslovakia) 1963, v. 18, no. 3, p. 193-196.

DESCRIPTORS: *Uranium compounds, Dioxides, *Powder metallurgy, Density, Metal powders, Pressure, Bonding, X-ray diffraction analysis, Particles, Sintering, Electron microscopes.

Lupu, Al.
THE REDUCTION OF (NONFERROUS) ORES WITH METHANE. June/July 63, 7000 words.
Order from HB $19.50 HB-4724

Trans. of [Academia Republicii Populare Romine. Centrul de Cercetari Metalurgice]. Studii si Cercetarii de Metalurgie, 1959 [v. 4] No. 4, p. 561-586.

DESCRIPTORS: *Methanes, *Ores (Metal sources), Reduction (Chemistry), *Natural gas, Metals, Oxides, Thermodynamics, *Zinc compounds, *Copper compounds, *Lead compounds, Slags.

Structural Metallurgy and Corrosion

RESEARCH ON SOME PROBLEMS RELATING TO METAL OXIDATION AND APPLICATION OF IMPEDANCE MEASUREMENT METHODS TO AN INVESTIGATION OF CORROSION RESISTANCE IN AN AQUEOUS ENVIRONMENT. Quarterly rept. no. 3, 1 Oct-31 Dec 62, on Contract 081-62-5 RDB. [1963] [7]p. 6 refs.
Order from OTS or SLA $1.10 EURAEC-559

Trans. of a rept. from Brussels Free U. (Belgium) n.d.

DESCRIPTORS: *Corrosive liquids, Metals, *Copper, *Cadmium, *Nickel, *Copper alloys, *Nickel alloys, *Gold alloys, Oxidation, Halogenation, Nucleation, Crystal growth, Impedence.

Results are given on studies of oxides built up on pure metals (copper-oxygen system, cadmium-oxygen system, nickel-oxygen system) and research on selective alloy oxidation (case of the Cu-Ni alloy, case of the Au-Cu alloy, halogenation of metals).

Akol'zin, P. A., and Gulyaev, V. N.
CORROSION DES MATERIAUX POUR RÉACTEURS. II. FACTEURS PRINCIPAUX DE LA CORROSION D'UN MÉTAL SOUS CONTRAINTE (Corrosion of Reactor Materials. II. Principal Factors in Corrosion of a Metal Under Stress) tr. by de Trezvinski. 24 Mar 62 [13]p. 13 refs. CEA-tr-R1639 (text in French).
Order from OTS or SLA $1.60 63-23483

Trans. in French of mono. Korroziya Reaktornykh Materialov: Sb[ornik] Statei (Corrosion of Reactor Materials: Collection of articles) Moscow, 1960, p. 69-77.

DESCRIPTORS: *Reactor materials, *Corrosion, Metals, Stresses.

Baumann, K.
THE FIRESIDE CORROSION OF FURNACE WALL AND SUPERHEATER TUBES. [1963] [10]p 6refs
Available from SLA on loan 63-18494

Trans. of Vereiningung der Grosskesselbesitzer. Mitteilungen (West Germany) 1962, no. 76 [p. 38-42].

DESCRIPTORS: *Corrosion, *Furnaces, Walls, *Pipes, Corrosive gases, Boiler tubes, Steel, Sulfates, Sulfides.

Calvet, J. and Renon, C.
DISCONTINUOUS CRYSTAL GROWTH IN ALUMINIUM-COPPER ALLOYS. [1963].
Order from FRI FRI Trans-180

Trans. of [Revue de Métallurgie. Mémoires Scientifiques] (France) 1960, v. 57, no. 5, p. 345-362. Another trans. is available from SLA $3.60 as 63-16641 [1963] [40]p.

DESCRIPTORS: *Copper alloys, *Aluminum alloys, Crystal growth.

Edel'man, F. L., Pokrovskii, V. V. and others.
SURSTRUCTURE ET ANOMALIES DE LA RÉSISTANCE À LA CORROSION (Sverkhstruktura i Anomaliya Korrozionnoi Stoikosti) [Superstructure and Anomaly of Corrosion Resistance] tr. by Mme. T. Marett. 29 Apr 62 [9]p. (foreign text included) 6 refs. CEA Trans. no. R 1627.
Order from OTS or SLA $1.10 63-15476

Trans. in French of #Fiz[ika] Metal[lov i] Metalloved-[enie] (USSR) 1961, v. 12, no. 5, p. 778-779.

DESCRIPTORS: *Corrosion inhibition, *Iron, *Aluminum, Crystal structure, Transition temperature, Diffusion.

Haasen, P[eter] and King, A[lwyn].
WORK-HARDENING AND STACKING FAULT ENERGY IN COPPER ALLOY CRYSTALS. [1963].
Order from FRI FRI Trans-182

Trans. of Zeitschrift für Metallkunde (West Germany) 1960, v. 51, no. 12, p. 722-736.
Other translations are available from ATS $36.00 as ATS-36N53G [1961] 25p. and from SLA $2.60 as 61-20526 [1961] 25p.

DESCRIPTORS: *Copper alloys, *Crystals, Hardening, Energy.

Ishizuka, H. and Chiba, R.
ON THE CORROSION RESISTANCE OF STEELS IN CONTACT WITH HYDROGEN SULFIDE. June/July 63, 1000 words.
Order from HB $3.50 HB-6016

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 4, p. 645-647.

DESCRIPTORS: *Sulfides, Hydrogen compounds, *Steel, *Corrosion inhibition.

Khlapova, A. N., Kovaleva, E. S., and Palkina, K. K.
CHEMICAL INTERACTION OF IRON AND HAEMATITE IN THE SOLID STATE. [1962] [11]p. 7 refs. C. E. Trans. 2640; [DSIR] NLL M-8894.
Order from OTS or SLA $1.60 63-15192

Trans. of Teploenergetika (USSR) 1962 [v. 9] no. 1, p. 40-44.

DESCRIPTORS: *Iron compounds, Oxides, Chemical reactions, Boilers, *Steam power plants, *Corrosion.

Results show that the chemical interaction between metallic iron and the deposited haematite reduce the metallic surface of the boiler, forming magnetite (below 570°C) and ferrous oxide (above 570°C). Reduction of the haematite by iron as well as direct oxidation of the metal by oxygen leads to a gradual burning-through of the tubes, up to formation of bulges and flows. At increased temperatures, the interaction causes strong adhesion between the metal surface of the tubes and the iron oxide deposits.

Klinov, I. Ya.
CONTRIBUTION OF QUESTION OF ACTION OF MINERAL ACIDS ON METALS AND ALLOYS (K Voprosu o Vozdeistvii Mineral'nykh Kislot na Metally i Splavy). [1963] [28]p.
Order from OTS or SLA $2.60 63-18122

Trans. of mono. [Konferentsiya po Korrozii Metallov (Conference on Corrosion of Metals) (no. 2)]. Trudy, v. 2 [Moscow/Leningrad] 1943, p. 216-226.
Another trans. is available from OTS or SLA $1.10 as 61-18340 [1961] 9p.

DESCRIPTORS: *Iron alloys, Alloys, *Metals, Acids, *Steel, Minerals, *Corrosion inhibition, *Sulfuric acid, *Hydrochloric acid, *Nitric acid, Bronze, Chromium, Nickel, Silicon, Corrosion.

For abstract see Technical Translations 7: 105, 1962.

Masing, G.
POTENTIAL MEASUREMENTS IN THE FIELD OF CORROSION RESEARCH (Die Potentialmessung im Dienste der Korrosionsforschung). Presented before Committee on Corrosion, German Association for Metallurgical Science, Stuttgart, 21 Apr 50. [1963] [20]p. (foreign text included) 4 refs.
Order from SLA $1.60 63-16830

Trans. of Werkstoffe und Korrosion (West Germany) 1950, v. 1, no. 11, p. 433-437.

DESCRIPTORS: *Corrosion, Metallurgy, Electrodes, Electrolytes, Aluminum, Iron, Zinc, Anodes, Surfaces, Oxides, Hydrides.

Theoretical discussion of the course of reaction of a metal electrode in an electrolyte is used to explain the behavior of the metals in use. Details are given for

aluminum, iron and zinc electrodes, and the discrepancies between theoretical and actual behavior are explained largely on the basis of the difference between the apparent surface of the anode and the effective surface as effected by the presence of oxide or hydride layers under the influence of different pH and current conditions within the electrolyte. (Author)

Nakagawa, R. and others.
EFFECTS OF COMPOSITION AND STRUCTURE ON THE PROPERTIES OF CHROME-NICKEL STAINLESS STEELS WITH SPECIAL REFERENCE TO TITANIUM AND COLUMBIAN ADDITIONS. June/July 63, 1200 words.
Order from HB $4.20 HB-6028

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1500-1502.

DESCRIPTORS: *Niobium alloys, *Titanium alloys, Additives, *Stainless steel, *Nickel alloys, *Chromium alloys, *Ferrites, Microstructure, Mechanical properties, Corrosion.

Pek, G.
ALGUNAS MEDIDAS PARA LA LUCHA CONTRA LA CORROSION DE UNA INSTALACION DE REFRIGERACION (Nekotorye Mery Bor'by s Korroziei Kholodil'nogo Oborudovaniya) (Description of Some Anticorrosion Measures in a Refrigeration Plant). 5p. CID: 62-214.
Order from OTS, ETC or CID $0.80 62-29214

Trans. in Spanish of Kholodil'naya Tekhnika (USSR) 1958, v. 35, no. 4, p. 69-70.

DESCRIPTORS: *Corrosion, Refrigeration systems, *Corrosion inhibition.

Schikorr, G.
THE MECHANISM OF ATMOSPHERE RUSTING OF IRON. Aug 63.
Order from BISI £7 BISI-3339

Trans. of Werkstoffe und Korrosion (West Germany) 1963, v. 14 [no. 2] p. 69-80.

DESCRIPTORS: *Iron, *Corrosion, Atmosphere, Quantitative analysis.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

BULLETIN OF THE BORIS KIDRIC INSTITUTE OF NUCLEAR SCIENCES, 1963, VOL. 14, NO. 1, tr. by Danica Ladjevac and Gordana Todorovic. 1963 56p 55refs PL-480 AEC.
Order from OTS $0.50 AEC-tr-5737/1

Trans. of Institut za Nuklearne Nauke. Bilten (Yugoslavia) 1963, v. 14, no. 1, p. 1-56.

DESCRIPTORS: *Nuclear engineering, Scientific organizations, Yugoslavia, Nuclear reactors, *Gas-cooled reactors, *Uranium compounds, *Mass spectroscopy, *Complex compounds, X-ray diffraction analysis, *Titanium compounds, *Spectrum analyzers, *Mutations, *Desoxyribonucleic acids, *Escherichia, *Radiation effects, *Transaminases, Rats.

Contents:
A method for optimizing gas-cooled reactor parameters, by M. Novakovic
The use of graphite-coated tungsten filaments for isotopic analysis of uranium by a mass spectrometer, by I. Opauszky and K. F. Zmbov
An X-ray diffraction study of inorganic complexes $KHgBr_3$-H_2O and $Na_5Zr_2F_{13}$, by R. M. Herak and others
The extraction of metal complexes with organic acids by means of amines: The extraction of uranium and titanium complexes, by M. Susic
Á 2.2 meter modified eagle grating spectrograph, by D. Pesic and others
The effects of native wild-type deoxyribonucleic acid on the frequency of back-mutation (reversion) induced by X-rays in a thymine and uracil-requiring mutant of E. Coli (E. Coli 15 T⁻U⁻) by O. Djordjevic and D. Kanazir
The effect of X-irradiation on the transaminase activity in tissues of infantile rats, by M. M. Jovanovic and N. B. Svecenski

Bovard, Pierre and Grauby, Andre.
A STUDY OF THE APTITUDE OF SOILS UNDER NATURAL CONDITIONS TO RETAIN RADIOSTRONTIUM. [1963] [19]p. 2 refs.
Order from OTS or SLA $1.60 AEC-tr-5453

Trans. of C[ommissariat à l']É[nergie] A[tomique, Paris] (France) no. 1751, 1960, 26p.

DESCRIPTORS: *Soils, Absorption (Physical), *Strontium, *Radioactive fallout, Autoradiography, Measurement.

Glaubermann, A. E., Kobylyanskii, V. B., and Tal'yanskii, I. I.
NEUTRON DISTRIBUTION IN MEDIA HAVING CYLINDRICAL INTERFACE AND OFF-AXIS SOURCE. [1963] 3p. 1 ref. [DSIR] NLL M. 3729.
Order from OTS or SLA $1.10 63-19824

Trans. of #Atomnaya Energiya (USSR) 1961, v. 10, no. 5, p. 513-515.

DESCRIPTORS: *Neutrons, *Fast neutrons, Distribution, Density, Cylindrical bodies, Mathematical analysis.

Gol'danskii, V. I. and Egorov, E. V.
COMPARISON OF THE EFFECTS OF ELECTRON IRRADIATION ON THE OPTICAL ACTIVATION OF RACEMATES AND OF OPTICAL ANTIPODES (Sravnenie Deistviya Elektronnogo Oblucheniya na Opticheskuf Aktivnost' Ratsematov i Opticheskikh Antipodov). [1963] [9]p. 12 refs.
Order from OTS or SLA $1.10 AEC-tr-5578

Trans. of mono. [International Atomic Energy Agency] Symposium on Radiation Damage in Solids and Reactor Materials, Venice, 7-11 May 62. Proceedings, v. 2, 1962, p. 253-259 (STI/PUB/56).

DESCRIPTORS: *Radiation chemistry, *Stereochemistry, Molecular rotation, *Electron bombardment, Radiation effects, Amino acids, Glucosides, Cyclopentanones, Alkaloids, Dibasic acids.

In view of reiterated reports in the literature stating that electrons emitted during beta-decay and even accelerated on a microtron have different effects on reflecting isomers, i.e. antipodes, detailed investigations were made to determine the effects of electron irradiation on the optical activation of solid racemates and the separate forms of optical isomers of 14 different organic compounds. The beta-active isotope Rh^{104}, a microtron, and a cascade accelerating tube were used as the electron sources. In all the cases investigated, no optical activation was detected when the racemates were irradiated, and there was no difference in the effects of the irradiation on the optical antipodes. It is proposed to carry out experiments in which pyrocrystals, i.e. optically active polarized targets, will be bombarded by polarized protons. (Author)

Klepikov, N. P.
TRANSITION RADIATION (K Voprosu o Perekhodnom Izlchuenii). [1963] [9]p. 5 refs.
Order from OTS or SLA $1.10 AEC-tr-5642

Trans. of Moscow U. Vestnik. (USSR) 1951, v. 6, p. 61-67.

DESCRIPTORS: *Charged particles, *Electrons, Acceleration, Deceleration, Electric potential, *Bremsstrahlung, Field theory, Perturbation theory, Vector analysis.

Leveque, P.
RADIO-ACTIVATION ANALYSIS IN THE SERVICE OF INDUSTRY, tr. by Myra S. Feldman. [1963] [5]p. (figs. omitted) 11 refs.
Order from OTS or SLA $1.10 AEC-tr-5116

Trans. of C[ommissariat à l']É[nergie] A[tomique, Paris]. (France) no. 1774, 1960.

DESCRIPTORS: *Nuclear industrial applications, *Nondestructive testing, *Radioactivation analysis, Nuclear spectroscopy, Tracer studies.

Perfilov, N. A.
ENREGISTREMENT DE FRAGMENTS D'URANIUM AVEC SUPPRESSION DES TRACES DUES À DES PARTICULES ALPHA ÉMISES PAR L''URANIUM (Registration of Uranium Fragments with Removal of Background Due to Alpha-Particles Emitted by Uranium) 5p.
Order from OTS, ETC or CNRS $0.80 62-26503

Trans. in French of Akademiya Nauk SSSR. Doklady, 1945, v. 47, no. 9, p. 623-626.

DESCRIPTORS: *Uranium, Determination, Alpha particle reactions, Photographic emulsions, Photographic plates, *Fission products, Oxidation.

Perfilov, N. A.
SENSIBILITÉ AUX PROTON DES ÉMULSIONS TRAITÉES POUR L'ENLÈVEMENT DU BRUIT DE FOND. (Proton-Recording Sensitivity of Emulsions Treated for Removal of Background). 3p.
Order from OTS, ETC or CNRS $0.80 62-26501

Trans. in French of Akademiya Nauk SSSR. Doklady, 1944, v. 43, no. 1, p. 14-15.

DESCRIPTORS: *Photographic emulsions, Photographic plates, *Alpha particles, *Tracking, Optical images, Demolition, Oxidation, Polonium, *Protons.

Rudenko, N. P.
PRÉPARATION DE L'YTTRIUM 90 SANS ENTRAINEUR, A L'ÉTAT DE PURETÉ RADIOCHIMIQUE, IV [IV. Poluchenie bez Nositelya Ittriya^{90} v Radiokhimicheski Chistom Sostoyanii] (Preparation of Carrier-Free Yttrium 90 in a State of Radiochemical Purity, IV) tr. by Kefelt. 6 June 61 [17]p. 43 refs. CEA Trans. no. R 1339 (text in French).
Order from OTS or SLA $1.60 63-23538

Trans. in French of #Zh[urnal] Neorg[anicheskoi] Khim[ii] (USSR) 1959, v. 4, no. 1, p. 220-224.

DESCRIPTORS: *Radiochemistry, Radioactive isotopes, *Yttrium, Separation, Complex compounds, *Sequestering agents, *Quinolinol.

An extracting method for the production of pure Y^{90} from solutions containing strontium worked out. Yttrium-8-oxyquinolate is extracted with chloroform. The extraction done once of yttrium-8-oxyquinolate with chloroform from acetate solutions and other buffer solutions depending on the pH value of the solution, the yttrium concentration in the solution and the concentration of 8-oxyquinoline were investigated. The extraction is complete at pH 7-9. The method of separating yttrium in radio-chemically pure condition is based on the extraction of its inner complex by 8-oxyquinoline at a pH value at which strontium does not form a complex with 8-oxyquinoline. The re-extraction of radioactive yttrium from the chloroform phase is achieved by diluting the solution by weak hydrochloric acid or weak acetic acid. Detailed directions for extracting yttrium in the form of its 8-oxyquinoline complex are given.

Skrylev, L. D. and Mokrushin, S. G.
PROBLÈME DE L'EXTRACTION DE L'URANIUM DES EAUX RÉSIDUAIRES PROVENANT DES INDUSTRIES CHIMIQUES ET DES LABORATOIRES DE RECHERCHE SCIENTIFIQUE (K Voprosu ob Izvlechenii Urana iz Stochnykh Vod Khimicheskikh Predpriyatii i Nauchno-Issledovatel'skikh Laboratorii) [Extraction of Uranium from Waste Waters of Chemical Plants and Scientific Research Laboratories] tr. by de Trezvinsky. 20 Apr 62 [16]p. (foreign text included) 12 refs. CEA Trans. no. R 1648.
Order from OTS or SLA $1.60 63-15469

Trans. in French of #Zh[urnal] Prikl[adnoi] Khim[ii] (USSR) 1961, v. 34, no. 11, p. 2403-2407.

DESCRIPTORS: *Uranium, *Uranyl radicals, Separation, *Wastes (Industrial), Water, *Decontamination, Potassium compounds, Iron compounds, Cyanides, Chemical precipitation, Foams.

On a montré la possibilité de principe de l'extraction de faibles quantités de l'uranium (de l'uranyle plus précisément) à partir des eaux résiduelles dans les industries chimiques et les laboratoires de recherches cientifiques par la précipitation directe avec du ferrocyanure de potassium suivie de la séparation du ferrocyanure mixte d'uranyle formé par la méthode de formation de l'écume. (Author)

Taube, M., Gwozdz, E. and others.
EXTRACTION OF MENDELEVIUM AND FERMIUM IN TBP-HNO_3 SYSTEM, tr. by D. A. Nimidoff. Jan 63 [7]p. 6 refs.
Order from OTS or SLA $1.10 UCRL Trans-910

Trans. of Nukleonika (Poland) 1962, v. 7, p. 479-482.

DESCRIPTORS: *Radiochemistry, Cerium, Americium, Californium, *Fermium, *Mendelevium, Separation, Ion exchange, *Sequestering agents, Phosphates, Butyl radicals, *Nitric acid.

Measurements of the distribution coefficient were conducted for curium, americium, californium, fermium and mendelevium on the extraction column with TBP from solutions of nitric acid. It was shown that: $D_{Cf} < D_{Eu} < D_{Fm} \leq D_{Md}$ For 13.1 M-HNO_3, D_{Md} is in the region 4-5.5; D_{Fm} in the region 3.5 - 4.5. (Author)

Taube, Mieczyslaw.
ON THE QUESTION OF THE CHEMISTRY OF MENDELEVIUM, tr. by D. A. Nimidoff. Oct 62 [23]p. (foreign text included) 12 refs.
Order from OTS or SLA $2.60 UCRL Trans-901

Trans. of Nukleonika (Poland) 1962, v. 7, p. 389-406.

DESCRIPTORS: *Mendelevium, Actinide series, Chemical properties.

Some problems of possible chemical investigations of heaviest actinides (transeinsteinium) with half-life more than 10 minutes including mendelevium, were discussed. Some experimental column methods (ion-exchange, extraction, ionophoresis, coprecipitation) were proposed. A specific odd-even effect in the chemical properties of heavier actinides was investigated. (Author)

Instruments and Installations

Amelinckx, S. and others.
SOLID STATE NEUTRON DETECTOR. Quarterly rept. 6, 1 Jan-31 Mar 62, on Contract 079-61-10 RDB, [1963] [19]p. 3 refs. CEEN R-2112.
Order from OTS or SLA $1.60 EURAEC-306

Trans. of a rept. from Centre d'Étude de l'Énergie Nucléaire, Mol (Belgium) n.d.

DESCRIPTORS: *Neutron detectors, Radiation measurement systems components, *Semiconductor devices, *Single crystals, *Silicon compounds, *Carbides, Impurities, Aluminum, *Photoelectricity, Resistance (Electrical), *Hall effect, Fast neutrons, Neutron bombardment.

P-N junctions with relatively good characteristics have been obtained by diffusion of Al into n-type SiC single crystals. The width of the barrier is estimated to be of the order of one micron lying some fifty microns underneath the surface. A summary is given about the change of the electrical characteristics and the short-circuit photocurrent of grown SiC p-n junctions upon reactor irradiation. The photospectrometric measurements do show some interesting results. These measurements will be continued. Resistivity and Hall coefficient measurements as a function of temperature have been made on one n-type and three p-type single crystals of SiC after irradiation in the BR1 reactor. These measurements indicate that p-type SiC is converted to n-type SiC after a fast neutron bombardment of $nvt_f = 2.2 \times 10^{17}$ cm^{-2}. The n-type material remains of the same type after an exposure of $nvt_f = 3.8 \times 10^{16}$ cm^{-2}. For the two types the resistivity was markedly increased upon irradiation. The slope of the $\log \rho$ vs $\frac{1}{T}$ curve corresponds to an energy of 0.47 eV (or twice this value) for the n-type material and 0.24 eV (or 0.48) for the converted p-type material. The Hall mobility for electrons in the n-type specimen was decreased by a factor of two at 550°K. (Author) (See also EURAEC-185)

Drobot, V. I. and Shtukkenberg, Yu. M.
CALORIMÈTRE DIFFÉRENTIEL POUR LA MESURE DE L'ACTIVITÉ ET DES ÉNERGIES MOYENNES DE PARTICULES β DES PRÉPARATIONS RADIO-ACTIVES LIQUIDES ET PULVÉRULENTES (Differentsial'nyi Kalorimetr dlya Izmereniya Aktivnosti i Srednikh Energii Beta-Chastits Zhidkikh i Poroshkoobraznykh Radioaktivnykh Preparatov) [Differential Calorimeter for the Gauge Activities of Average Energy for Particular Beta Preparations of Radio-Active Liquids and Powders] tr. by Kefeli. 30 Aug 62 [22]p. (foreign text included) 4 refs. CEA Trans. no. R 1660.
Order from OTS or SLA $2.60 63-15486

Trans. in French of Radiobiologiya (USSR) 1961, v. 1, no. 4, p. 627-632.

DESCRIPTORS: *Radiobiology, *Health physics instrumentations, *Calorimeters, Design, Construction, Tissues (Biology), *Radiological dosage, *Beta particles, Energy, Measurement, Liquids, Powders.

Grishin, V. K.
ÉTUDE DES ORBITES D'UN ACCÉLÉRATEUR À FORTE FOCALISATION À CHAMP MAGNÉTIQUE CONTINU [Investigation of Orbits in Strong-Focusing Accelerator With Constant Magnetic Field] tr. by B. de Trezvinsky. 27 Apr 62 [13]p. 5 refs. CEA Trans. no. R 1631.
Order from OTS or SLA $1.60 63-15483

Trans. in French of Moscow U. Vest[nik]. Ser[iya 3]: Fiz[ika] Astr[onomiya] (USSR) 1960 [v. 15] no. 5, p. 6-10.

DESCRIPTORS: *Particle accelerators, *Strong focusing accelerators, *Betatrons, *Charged particles, *Particle trajectories, Stability, Oscillation, Magnetic fields, Nonlinear differential equations.

Dans le présent travail on étudie, par la méthode d'approximations consécutives, les trajectoires des particules d'un accélérateur de particules chargées à forte focalisation à champ magnétique continu. Les corrélations établies déterminent la liaison entre les paramètres du champ magnétique et les charactéristiques dynamiques de l'accélérateur. (Author)

Krasheninnikov, I. S., Kurochkin, S. S. and others.
A 256-CHANNEL MEASURING AND RECORDING SYSTEM (Sistema Izmerenii i Registratsii na 256 Kanalov). [1963] [20]p. 7 refs.
Order from OTS or SLA $1.60 AEC-tr-5508

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 2, 1962, p. 221-235 (STI/PUB/42).

DESCRIPTORS: *Radiation measurement systems, *Recording systems, *Memory devices, Magnetic cores, Ferrites, Transistors, *Time-interval counters, *Input-output devices.

Typical programs of system operation and the typical input units used for them are described. Structurally the system was so developed that it is possible to interchange both the input units and the program of the operation.

Vladimirskii, V. V. and Gol'din, L. L.
UN NOUVEAU SYNCHROTRON À PROTONS DE 7 GeV [A New Powerful Proton Synchroton] tr. by Vinogradoff. 14 Nov 62 [15]p. CEA Trans. no. R 1530.
Order from OTS or SLA $1.60 63-15502

Trans. in French of Akad[emiya] Nauk SSSR. Vest[nik] 1961, v. 31, no. 11, p. 34-39.

DESCRIPTORS: *Particle accelerators, *Strong focusing accelerators, *Proton accelerators, *Synchrotrons, Design, Operation.

Nuclear Engineering and Power

COATING OF URANIFEROUS CERAMIC PARTICLES WITH NIOBIUM METAL. Quarterly rept. no. 4, Apr-30 June 62, on Contract 066-61-7 RDB. [1963] [34]p. 5 refs.
Order from OTS or SLA $3.60 EURAEC-409

Trans. of a rept. from Société d'Études, de Recherches et d'Applications pour l'Industrie, Brussels (Belgium) July 62.

DESCRIPTORS: Metals, *Niobium, Particles, *Ceramic materials, Coatings, Metal coatings, *Uranium compounds, Oxides, Fluidized solids, X-rays.

Topics include: Coating of the UO_2 particles; characteristics of the coating processes and results of investigations on the coated particles; efficiency tests of a Delbag filter in connection with uranous oxide dust produced in the fluid bed reactor; checking of the covered particles; measurement of helium densities; estimation of the porosity by HNO_3 8N leaching; micrographs and microhardness measurements; and X-ray investigations

INVESTIGATION OF THE CRITICAL BOILING WATER BURNOUT. Quarterly rept. no. 4, pt. 1 (technical part) 1 July-30 Sep 62, on Contract 057-61-RDD. [1963] [10]p. 1 ref.
Order from OTS or SLA $1.10 EURAEC-449

Trans. of a rept. from Maschinenfabrik Augsburg-Nürnberg AG, Nuremberg (West Germany) 11 Oct 62.

DESCRIPTORS: *Boiling water reactors, *Heat exchangers, Thermal conductivity, Test equipment, *Manometers, *Thermocouples.

Preparations for the construction of the test stand and the actual research program were continued. The constructional work at the actual test stand was brought to a close and the construction of the testing tracks for the test pieces was continued. Further, a high-precision differential manometer was designed, as well as a testing gear for accurate measurement of the coefficient of thermal conductivity of the tubes under test. Concerning the measuring technique, experiments on temperature changes were performed with the double thermocouple and an insulated lead-in for test wires was tried out at high pressures. In the theoretical field, preparations were made for the evaluation of results, and in this connection a program was established for calculating the radial temperature distribution in electrically heated tubes by means of a computer. (See also EURAEC-303) (Author)

INVESTIGATION OF THE CRITICAL BOILING WATER BURNOUT. Quarterly rept. no. 5, pt. 1 (technical part) 1 Oct-31 Dec 62, on Contract 057-61-RDD. [1963] [11]p. 5 refs.
Order from OTS or SLA $1.60 EURAEC-523

Trans. of a rept. from Maschinenfabrik Augsburg-Nürnberg AG, Nuremberg (West Germany) 7 Jan 63.

DESCRIPTORS: *Boiling water reactors, *Heat exchangers, *Thermocouples, Tests, Water, *Steam, *Thermodynamics, Temperature, Distribution, Mathematical analysis, Errors, Models (Simulation).

Preparatory work for carrying out the investigation on the critical boiling water burnout in a high pressure pilot plant was pursued. The construction of the individual assemblies and conduits of the pilot plant was continued in the workshop. Besides, several preparatory tests were carried out, viz.: Testing of the three-wire thermocouple on a heated tube; investigation of the flow on the inlet side of the test section provided for later experiments, by means of an air/water mixture; establishment of programs for calculating the thermodynamic properties of water and steam at pressures beyond 170 atm.and temperatures above 350°C on a digital computer; calculation of the temperature distribution in the heated wall of test models, especially concerning the computation of errors; and, continuation of the critical analysis of available experimental results. (Author) (See also EURAEC-449)

PREPARATION OF UO_2 POWDERS UNDER WET CONDITIONS. Quarterly rept. 3, 1 July-30 Sep 61, on Contract 028-60-10 RD1. [1962] 29p.
Order from OTS or SLA $2.60 EURAEC-233

Trans. of a rept. from Comitato Nazionale per l'Energia Nucleare, Rome (Italy) n.d.

DESCRIPTORS: *Uranium compounds, Dioxides, *Powder metals, Preparation, Hydroxides, Chemical precipitation, Dehydration, *Sintering, Particle size.

For abstract see Nuclear Science Abstracts 16: 4356, 1962. (See also EURAEC-112)

Belotserkovskii, V.
SOVIETS USE BALLOONS IN ATOMIC MATERIALS TESTING. 30 July 63, 3p. JPRS: 20420.
Order from OTS $0.50 63-31417

Trans. of Izvestiya (USSR) 1963, no. 95(14258) 20 Apr, p. 6.

DESCRIPTORS: *Balloons, Test methods, *Cosmic rays, *Reactor moderators, Reactor materials.

A popularized account concerning the state of balloon-borne research in the USSR with a note on a method used for selecting reactor moderator materials by exposing various substances to cosmic radiation at high altitudes.

Benoist, P.
THE GENERAL FORMULATION AND PRACTICAL CALCULATION OF THE DIFFUSION COEFFICIENT IN A LATTICE CONTAINING CAVITIES, tr. by Liz Appleby. 16 Mar 61 [73]p. 21 refs.
Order from OTS or SLA $7.60 HW-TR-25

Trans. of C[ommissariat à l']É[nergie] A[tomique, Paris] (France) no. 1354, 1959.

DESCRIPTORS: *Reactor moderators, *Reactor fuel elements, *Reactor lattice parameters, Diffusion, Nonleakage probability, *Neutron flux, Neutron cross sections, Geometry, Special functions.

The calculation of diffusion coefficients in a lattice necessitates the knowledge of a correct method of weighting the free paths of the different constituants. An unambiguous definition of this weighting method is given here, based on the calculation of leakages from a zone of a reactor. The formulation obtained, which is both simple and general, reduces the calculation of diffusion coefficients to that of collision probabilities in the different media: it reveals in the expression for the radial coefficient the series of the terms of angular correlation (cross terms) recently shown by several authors. This formulation is then used to calculate the practical case of a classical type of lattice composed of a moderator and a fuel element surrounded by an empty space. Analytical and numerical comparison of the expressions obtained with those inferred from the theory of Behrens shows up the importance of several new terms some of which are linked with the transparency of the fuel element. Cross terms up to the second order are evaluated. A practical formulary is given at the end of the paper. (Author)

Foure, G.
IMPROVEMENT OF HEAT-TRANSFER IN NUCLEAR REACTORS WITH BOILING WATER. Quarterly rept. no. 9 [2d quarter 1962) on Contract 058-61-7 RDF. [1963] [19]p.
Order from OTS or SLA $1.60 EURAEC-386

Trans. of a rept. from Société Nationale d'Étude et de Construction de Moteurs d'Aviation, Suresnes (France) July 62.

DESCRIPTORS: *Boiling water reactors, Heat transfer, *Heat exchangers, Tests, *Hydrodynamics, Fluid flow, Pressure.

Results are presented for hydrodynamic tests on assembly fractions, low-pressure thermal tests, and high-pressure thermal tests. Flow analyses and pressure drop measurements were made. Graphs and tables are included. (AEC abstract) (See also EURAEC-314)

Sidorenko, V. A., Markov, Yu. V., and Potrunin, D. M.
OPERATION OF A WATER-WATER POWER REACTOR IN THE EVENT OF A STOPPAGE OF THE CIRCULATING PUMPS (Rabota Vodo-Vodyanogo Energeticheskogo Reaktora v Usloviyakh Obestochivaniya Tsirkulyatsionnykh Nasosov). [1963] [27]p.
Order from OTS or SLA $2.60 AEC-tr-5634

Trans. of mono. [International Atomic Energy Agency] Symposium on Reactor Safety and Hazards Evaluation Techniques, Vienna, 14-18 May 62. Proceedings, 1962, v. 2, p. 181-203 (STI/PUB/57).

DESCRIPTORS: *Reactor hazards, *Reactor operation, *Power reactors, *Light water reactors, Heat exchangers, *Coolant pumps, Power supplies, *Reactor cores, Cooling, *Uranium compounds, Dioxides, Thermal conductivity, Neutron flux.

Speeckaert, Ph. and others.
RETREATMENT OF IRRADIATED FUELS. Quarterly rept. 6 (2d year) 1 July-30 Sep 62, on Contract 049-61-4 RDB. [1963] [55]p. refs. Order from OTS or SLA $5.60 EURAEC-460

Trans. of a rept. from Centre d'Etude de l'Energie Nucleaire, Mol (Belgium) n.d.

DESCRIPTORS: *Reactor fuel processing, *Uranium compounds, Oxides, *Chlorination, Dioxides, Fluorides, Carbides, Oxidation, *Reaction kinetics, *Fission products, *Niobium, *Powder metals, Corrosion, *Plutonium, Separation.

The chlorination of uranium oxides, oxidation kinetics, elimination of fission products, powder technology and plutonium separation are discussed in detail and progress is indicated on problem areas. (AEC abstract) (See also EURAEC-263)

Starodubtsev, S. V.
ANALOGY IN RADIATION EFFECTS ON SOLIDS OF NUCLEAR RADIATION AND SLOW CHARGED PARTICLE FLUXES (Analogii v Radiatsionnom Deistvii na Tverdye Tela Yadernykh Izluchenii i Potokov Medlennykh Zaryazhennykh Chastits). [1962] 13p. Order from OTS or SLA $1.60 AEC-tr-5365

Trans. of mono. International Atomic Energy Agency Symposium on Radiation Damages in Solids and Reactor Materials, Venice, 7-11 May 62, [Proceedings] Paper SM-25/75.

DESCRIPTORS: *Solids, *Radiation damage, *Reactor materials, *Charged particles, Gamma rays, *Conferences, Energy, Conversion, Electron beams, Iron beams, *Nuclear particles, Nuclear physics, Nuclear engineering.

Zborowski, Helmut.
ROCKET POWER PLANT FOR HIGH POWER FUELS, tr. by J. R.-P. 31 Jan 63, 17p. (figs. omitted). Order from OTS or SLA $1.60 63-15440

Trans. of French patent 1,009,482, gr. 11, cl. 4, by Société d'Étude de la Propulsion par Réaction, appl. 27 Jan 50, granted 12 Mar 52, pub. 29 May 52.

DESCRIPTORS: Rockets, Nuclear power plants, Nuclear reactions, Combustion chambers, Nuclear energy, *Rocket propulsion, Fuels.

The invention involves a rocket power plant in which a high energy reaction is utilized, and comprising a combustion chamber such that the ratio of the maximum cross section and its minimum cross section is between 1 and 2, means for introducing an "energy carrier" in a regulable amount into the combustion chamber, a "reaction starter" placed in the chamber or means for introducing said starter into said chamber before or simultaneously with the "energy carrier", and means for introducing into said chamber, in the form of one or more cylinders, a liquid and inert coolant which is intended to be vaporized or even dissociated by the heat of the reaction and which constitutes in this state the major part of the propellant jet and, preferably, means for the circulation of said coolant along the external surface of the side wall of the chamber before its introduction into said chamber. (Author)

Nuclear Reactions

Pal, L.
STATISTICAL THEORY OF THE CHAIN REACTION IN NUCLEAR REACTORS, I-III, tr. by V. Shibaev. Aug 62 [55]p. 36 refs. Order from OTS or SLA $5.60 63-23321

Trans. of [Acta Physica (Hungary) 1962, v. 14, no. 4, p. 345-380].

DESCRIPTORS: *Nuclear reactors, Nuclear reactions, *Fission, *Chain reactions, *Neutron reactions, *Statistical analysis, Probability.

Perelygin, V. P. and Tret'yakova, S. P.
RADIOGRAPHY OF SPONTANEOUS NUCLEAR FISSION (Radiografiya Spontannogo Deleniya Yader) tr. by M. Kassatkin. Mar 63 [11]p. (foreign text included) 4 refs. Order from OTS or SLA $1.10 UCRL Trans-940

Trans. of Joint Inst. for Nuclear Research, Dubna (USSR) P-1118, 1962.

DESCRIPTORS: *Radiography, *Nuclear reactions, *Fission, Mendelevium, Fermium, Photographic emulsions, Chromatographic analysis, *Fission products, Isotope separation, Transuranium elements.

A description is given of a technique for registering the fragments of spontaneous fission by means of nuclear photoemulsions in order to obtain the radiography of the mendelevium and fermium elements separated by a chromatographic column. (Author)

PERSONNEL SUPPLIES AND PERSONAL EQUIPMENT

Artozoul, J.
PREPARATION OF DECOLORIZED CONCENTRATES FROM FLOWER CONCRETES. [1961] 28p. (figs. omitted) 2 refs.
Order from SLA $2.60 63-16967

Trans. of Parfumerie, Cosmetique, Savons (France) 1958, v. 1, no. 9, p. 329-338.
Another trans. is available from K-H $28.75 as K-H 9039-a [1961] 23p.

DESCRIPTORS: *Toilet articles, Plants (Botany), *Odors, *Colors, Vacuum apparatus, Distillation.

The obtention of decolorized concentrates imposes itself when they are to be used in the preparation of "beauty products." By studying the origin of the coloration of the concretes, techniques have been evolved for the separation of the odorous products and the colored materials. The author reviews direct vacuum distillation, entrainment with steam, entrainment with glycols and distillation under high vacuum in an apparatus with downward-flowing film. (Author)

PHYSICS

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNAL NO. 251. (PHYSICS AND MATHEMATICS SERIES). 29 July 63, 10p. JPRS: 20373.
Order from OTS $0.50 63-31392

Consists of abstracts of articles from the scientific and technical journals of East Germany, Hungary and Poland.

DESCRIPTIONS: *Abstracts, *Physics, *Mathematics, *East Germany, *Hungary, *Poland, Electron microscopes, Optical equipment components, Nuclear radiation spectrometers, Protons, Betatrons, Dielectric properties, Liquefied gases, Liquid-level control, Mars, Stilbenes, Anilines, Benzenes, Electron transitions, Molecular structure, Proton accelerators, Uranyl radicals, Nitrates, Absorption spectra, Radiation chemistry, Aluminum, Surface properties, Electrochemistry.

Bakhman, N. N.
INCREASING THE RATE OF COMBUSTION BY INTRODUCING AN INERT ADMIXTURE. 27 May 63 [7]p. 1 ref. FTD-TT-63-460; AD-409 199.
Order from OTS or SLA $1.10 63-23194

Unedited rough draft trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 145, no. 6, p. 1328-1330.

DESCRIPTORS: *Combustion, Additives, Gases, Heat of reaction, Particles.

Borzyak, P. G.
PHOTOCONDUCTIBILITÉ DESPÉLLICULES EN ANTIMOINE-CESIUM (Photoconductivity of Antimony-Cesium Films). 8p. 20 refs.
Order from OTS, ETC or CNRS $0.80 62-28090

Trans. in French of Zhurnal Tekhnicheskoi Fiziki (USSR) 1950, v. 20, no. 8, p. 923-927.
Another trans. is available in English from SLA as RT-2180, 11p.

DESCRIPTORS: *Antimony compounds, *Cesium compounds, Thin films, *Photoconductivity, Electric currents, Measurement, Light.

Fedyakin, N. N.
VAPOR DIFFUSION IN CAPILLARIES (Diffuziya Parov v Kapillyarakh) tr. by Marcel I. Weinreich. 6 Mar 63 [20]p. 13 refs.
Order from OTS or SLA $1.60 SCL-T-467

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1962, no. 3, p. 82-92.

DESCRIPTORS: *Vapors, *Diffusion, Porous materials, Transport properties.

It was established that the diffusion coefficient of vapors in capillaries remains constant as long as the diameter of the capillary is greater than the mean free path length. The diffusion coefficient is directly proportional to the capillary's radius and to the mean velocity of the molecular motion (movement) when the capillary's radius is less than the length of the mean free path. A theoretical dependence of the diffusion coefficient on the capillary's radius and on the length of the mean free path of the molecules was obtained and a comparison with the results of experimental measurements was carried out. The agreement between theory and empiricism is satisfactory in this case. (Author)

Fillipov, N. V., Zhurin, V. V., and Sulyaev, V. A.
ELECTRICAL DISCHARGE IN WATER. 27 May 63 [8]p. 3 refs. FTD-TT-63-385.
Order from OTS or SLA $1.10 63-23111

Unedited rough draft trans. of Inzhenernyi Zhurnal (USSR) 1962, v. 2, no. 4, p. 341-343.

DESCRIPTORS: *Electric discharges, *Water, Pressure, Shock waves, Electrical equipment, Design, Tests, Plasma physics.

The work is devoted to short powerful discharges with as rapid emission of energy as possible, i. e., investigation of the brisance of the electrohydraulic effect. (Author)

Kapitsa, P.
THEORY, EXPERIMENT AND PRACTICE. [1962] 4p. [DSIR] NLL M 8923; [Trans] T. 2859.
Order from OTS or SLA $1.10 63-15178

Trans. from Ekonomicheskaya Gazeta (USSR) 1962 [no. 13(34)] p. 10.
Another trans. is available from HMSO $0.77 in NLL Translations Bulletin, 1962, v. 4, no. 8.

DESCRIPTORS: *Scientific research, *Research program administration, Theory, Physics, Science, Scientific personnel, Job analysis.

The state of experimental science, especially physics, is summarized, including historical background. The experimental procedure, including job analysis and environment, is discussed. Several arguments are given in favor of experimentation as an essential condition for scientific development.

Natalis, P.
STUDY OF THE BEHAVIOR OF GEOMETRIC ISOMERS UNDER ELECTRON BOMBARDMENT. I. CIS- AND TRANS-DECALINS. [1963] 10p.
Order from ATS $14.50 ATS-85Q70F

Trans. of Soc[iété] Chim[ique de] Belg[ique]. Bull[etin] 1963, v. 72, p. 264-275.

DESCRIPTORS: *Electron bombardment.

Romanov, A. M. and Starodubtsev, S. V.
ROLE OF SURFACE NONUNIFORMITY IN THE ADSORPTION AND IONIZATION OF SODIUM AND LITHIUM ON TUNGSTEN (O Roli Neodnorodnosti Poverkhnosti pri Adsorbtsii i Ionizatsii Natriya i Litiya na Vol'frame) tr. by Lydia Venters. Feb 63 [18]p. 22 refs.
Order from OTS or SLA $1.60 AEC-tr-5668

Trans. of Adademiya Nauk Uz[bekskoi] SSR [Tashkent]. Izvestiya. Ser[iya] Fiz[iko]-Mat[ematicheskikh] Nauk, 1957, no. 3, p. 11-26.

DESCRIPTORS: *Tungsten, Heat treatment, Surface properties, *Thermionic emission, Impurities, *Sodium, *Lithium, Adsorption, Ionization.

The adsorption and ionization phenomena of Na and Li atoms on W were studied. Problems associated with the structure and emission properties of W surfaces following thermal treatment were investigated. (AEC abstract)

Samson, A. M.
ANGULAR DISTRIBUTION OF RESONANCE RADIATION EMITTED BY A PLANE-PARALLEL LAYER. [1963] 14p. 10 refs.
Order from OTS or SLA $1.60 63-14473

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1958, v. 1, no. 1, p. 65-73.

DESCRIPTORS: *Resonance scattering, Distribution, Functions, Equations, Numerical analysis, *Luminescence, *Light transmission, Reflection.

Stepanov, B. I. and Rubanov, A. S.
CALCULATION OF THE PERFORMANCE OF RECEIVERS USING OPTICAL AMPLIFIERS (Raschet Pokazanii Priemnika pri Primenenii Opticheskikh Usilitelei). [1961] [14]p. (foreign text included) 5 refs.
Order from OTS or SLA $1.60 62-14263

Trans. of Akademiya Navuk BSSR, Minsk. Doklady, 1960, v. 4, no. 9, p. 372-375.

DESCRIPTORS: Measurement, *Optics, *Amplifiers, *Emissivity, *Thermal radiation, Equations, Luminescence, Lasers.

Suzuki, S. and Tomura, M.
STUDIES ON THE MEASUREMENT OF CHARGES ON FINE PARTICLES. PT. I. CHARGE MEASUREMENT OF TOBACCO AND MOSQUITO INCENSE AEROSOLS BY A CHARGE SPECTROMETER (1). [1963] 9p.
Order from ATS $9.75 ATS-93Q69J

Trans. of Denshi Shashin (Japan) 1962, v. 4, no. 2, p. 20-24.

DESCRIPTORS: *Aerosols, Particles, Electric potential, Measurement, *Tobacco, *Smokes, *Insecticides, Culicidae, *Electrophotography, Photographic images, Distortion, Spectroscopy.

Sychev, V. V.
THE SPEED OF SOUND IN WATER AND IN WATER VAPOUR ON THE SATURATION LINE. [1963] [7]p. 8 refs. [DSIR] NLL M.3969.
Order from OTS or SLA $1.10 63-19861

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 6, p. 64-69.

DESCRIPTORS: *Sound, Propagation, Water, Water vapor, Velocity, Equations, Numerical analysis, Acoustics.

Electricity and Magnetism

Bulgakova, T. I. and Guzei, L. S.
INVESTIGATION OF A HYSTERESIS LOOP OF COBALT-NICKEL FERRITES. 13 June 63 [7]p. 4 refs. FTD-TT-63-448; AD-409 148.
Order from OTS $0.50 63-11667

Unedited rough draft trans. of Moscow U. Vestnik, Ser[iya] 2: Khimiya (USSR) 1962 [v. 17] no. 6, p. 58-60.

DESCRIPTORS: *Ferromagnetic materials, *Ferrites, *Cobalt alloys, *Nickel alloys, Heat treatment, *Hysteresis

An investigation was carried out on the influence of the composition and heat and thermomagnetic treatment on the form of a hysteresis loop of ferrites

$Co_xNi_{1-x}Fe_2O_4$. It was established that after specific heat treatment ferrites have a contracted loop when $x = 0.3 - 0.6$. It was found that thermomagnetic treatment changes the form of the loop, tending towards the appearance of induced rectangularity. (Author)

Hoecker, Karl-Heinz and Finkelnburg, Wolfgang.
THEORY OF HIGH-CURRENT ARC COLUMNS, tr. by L. J. Holtschlag. 29 Nov 61 [14]p. 16 refs. APL/JHU TG 230-T260.
Order from OTS or SLA $1.60 63-23174

Trans. of Zeitschrift fur Naturforschung (West Germany) 1946, v. 1[a] p. 305-310.

DESCRIPTORS: Bessel functions, Decay schemes, Electric discharges, Molecules, Energy, Dissociation, *Gas ionization, Transport properties, *Electric arcs, Ionic current, Electric currents, Theory, Heat transfer coefficients.

The Elenbaas-Heller balance of energy of the arc column is advanced beyond the Rompe-Schulze contribution (energy transport resulting from ionization of gas molecules) by a new theory which takes into account energy transport resulting from the dissociation of molecules in the interior of the discharge. Various components sharing in energy transport are calculated. The balance of energy in the decay of the high-current arc can be integrated with a Bessel function. The result is a central temperature of ~11,000°K. (APL abstract)

Korzhukov, N. G. and Nazarov, S. Kh.
MAGNETIC POWDER, TYPE 4, MAGNETIC SOUND CARRIERS. [1963] 9p.
Order from ATS $12.50 ATS-28Q70R

Trans. of Vses[oyuznyi] Nauchn[o]-Issled[ovatel'skii] Kinofotoinst[itut]. [Trudy] (USSR) 1961, no. 43, p. 71-79.

DESCRIPTORS: *Powders, Magnetic properties, *Magnetic recording systems, Sound reproduction systems, Magnetic materials, Magnetic tape.

Metzdorf, Werner.
PHENOMENA DURING SEMI-STATIONARY MAGNETIZING OF THIN LAYERS. [1963] [46]p. 23 refs.
Order from SLA $4.60 63-18088

Trans. of Zeitschrift fur Angewandte Physik (West Germany) 1962, v. 14, no. 7 [p. 412-424].

DESCRIPTORS: *Magnetic properties, *Magneto-optic effect, *Alloys, Iron alloy, Nickel alloy, Anisotropy, Magnetism, Ferromagnetic materials, *Magnetic materials.

The report shows which kind of magnetizing processes occur in the area of the total layer under the influence of slowly increased fields of arbitrary direction and what coercitive force they possess and what factors determine the various processes. (Author)

Petrova, G. N.
THE INTERNAL DEMAGNETIZATION FACTOR. tr. by G. W. Freeman. May 61 [8]p. 7 refs. Geodynamics Technical Trans. no. 103.
Available from Geodynamics, Inc., P. O. Box 1258, Santa Monica, Calif. $1.00 as TT-103. When supply exhausted, order from OTS or SLA $1.10, 62-16549

Trans. of [Akademiya Nauk SSSR. Izvestiya. Seriya Geograficheskaya i Geofizicheskaya [1949] v. 13, no. 4, p. 363-368.

DESCRIPTORS: *Magnetic properties, Magnetic materials, *Ferromagnetic materials, Magnetic fields, Mathematical analysis.

The 'true' internal demagnetization factor, which characterizes the demagnetization field acting within the specimen is discriminated from the 'apparent' internal demagnetization factor produced by a large concentration of nonmagnetic admixtures in the specimen. In conclusion, a new empirical formula is given which relates the mean susceptibility of the specimen to the concentration of ferromagnetic component. (Author)

Polivanov, K. M., Dyatlov, V. L., and Vitkov, M. G.
ON THE CALCULATION OF THE REMAGNETIZATION PROCESS, TAKING INTO ACCOUNT THE SURFACE EFFECT AND DYNAMIC PROPERTIES OF THE MATERIAL. [1962] 10p. 18 refs.
Order from OTS or SLA $1.10 62-18528

Trans. of #Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Radiotekhnika (USSR) 1961, v. 4, no. 6, p. 653-657.

DESCRIPTORS: *Magnetism, Surfaces, Magnetic properties, Dynamics, Materials, *Ferromagnetic materials.

Electronics

Bauer, A.
ON THE FIELD EXCITATION THEORY OF COLD, EVAPORATING CATHODES, PTS. I-II (Zur Feldbogentheorie bei Kalten, Verdampfenden Kathoden, I-II). Sep 62 [27]p. 39 refs. AERDL T-1628; AD-285 198.
Order from OTS or SLA $2.60 63-13019

Trans. of German language article from unidentified source, n.d.

DESCRIPTORS: *Plasma physics, *Cold cathode tubes, Excitation, Secondary emission, *Field emission, *Gas discharges, Jets, Electric arcs, Field theory, Gas ionization, Pressure, Models (Simulations), Magnetic fields, *Cathodes, Tungsten, Evaporation,

A description of the processes taking place at cold, evaporating metal cathodes is presented in terms of the field-arc theory. In the first part of the work the 'channel model' is used as a basis. The high current density in the small gaseous volume of the cathode spot requires extremely high particle densities. The pressure and momentum relationships are discussed. Further, the cathodic gas jet and the recoil forces on

the cathode at various gas pressures are considered in great detail. The dependence of the essential discharge parameters on the transverse width across the ionization region was also investigated. The field emission of the cold electrode gives rise to a contraction mechanism which provides for extremely high cathode current density. A simple explanation is given for the irregular motion of the onset of the cathode arc, its reverse motion in a magnetic field, and for the extremely short extinction time of the arc. (Author)

Bogdankevich, L. S., Rukhadze, A. A. and Silin, V. P.
ON FLUCTUATIONS OF THE ELECTROMAGNETIC FIELD IN A NON-EQUILIBRIUM PLASMA, tr. by Sergei Shewchuck. Sep 62 [17]p. 8 refs.
Order from OTS or SLA $1.60 UCRL Trans-867(L)

Trans. of Akademiya Nauk SSSR. Fizicheskii Institut. Rept-A-80, 1962.
Another trans. is available free from Boeing Scientific Research Labs. Library as Boeing Trans. R46. When supply is exhausted, order from OTS or SLA $2.60, 63-10860.

DESCRIPTORS: *Plasma physics, Electrons, Ions, *Electromagnetic fields, Oscillation, *Particle beams, Thermodynamics, Tensor analysis, Statistical functions.
For abstract see Technical Translations 10: 104, 1963.

Gabovich, M. D., Pasechnik, L. L., and Lozovaya, E. A.
DISCHARGE INTO VACUUM OF PLASMA WITH A HIGH CONCENTRATION OF CHARGED PARTICLES. [1963] 10p. 8 refs. [DSIR] NLL M.3618.
Order from OTS or SLA $1.10 63-23386

Trans. of #[Zhurnal Tekhnicheskoi Fiziki] (USSR) 1961, v. 31, no. 9, p. 1049-1056.

DESCRIPTORS: *Plasma physics, *Electric discharges, Vacuum systems, *Charged particles, Density, Distribution, Measurement, Probes (Electromagnetic).

A probe method is used to investigate the spatial distribution of plasma parameters with a high concentration of charged particles ($\sim 10^{15}$ cm^{-3}), emitted into vacuum from a source, discharged by strong pulses.

Gorbonov, E. P., Dolgov-Savel'ev, G. G. and others.
ETUDE D'UNE DECHARGE TOROIDALE DANS UN CHAMP MAGNETIQUE INTENSE (Issledovanie Toroidal'nogo Razryada v Sil'nom Magnitnom Pole) [Investigating a Toroidal Discharge in a Strong Magnetic Field] tr. by Fairclough. 28 Mar 62 [32]p. (foreign text included) 6 refs. CEA Trans. no. R 1519.
Order from OTS or SLA $3.60 63-15478

Trans. in French of #Zh[urnal] Tekh[nicheskoi] Fiz[iki] (USSR) 1960, v. 30, no. 10, p. 1152-1164.

DESCRIPTORS: *Plasma physics, Plasma oscillations, Magnetic pinch, *Magnetic fields, Electrical discharges, Electrical conductivity, Electrons, Excitation, Spectroscopy, Rotating-drum cameras.

Ladyzhenskaya, O. A. and Solonnikov, V. A.
THE SOLUTION OF CERTAIN NONSTEADY-STATE PROBLEMS OF MAGNETOHYDRODYNAMICS FOR A VISCOUS INCOMPRESSIBLE FLUID. 22 May 63 [85]p. 24 refs. FTD-TT-63-208.
Order from OTS or SLA $8.10 63-23100

Unedited rough draft trans. of [Akademiya Nauk SSSR]. Matematicheskii Institut. Trudy, 1960, v. 59, p. 115-173.

DESCRIPTORS: *Magnetohydrodynamics, *Fluid flow, Viscosity, Numerical methods and procedures, Numerical analysis, *Incompressible flow, *Plasma physics.

Topics include: Orthogonal expansions $L_2(\Omega)$ for bounded region Ω; determination of space $W(\Omega)$ for bounded region Ω; the case of unbounded region Ω; the case of a two-dimensional region; certain auxiliary inequalities; equations of magnetohydrodynamics; theorems of uniqueness; a priori evaluations; existence theorems (case of three space variables; differentiable characteristics of generalized solutions; and the case of two space variables.

Rompe, R. and Rother, H.
ON THE BEHAVIOR OF A PLASMA UNDER FAST-CHANGING CONDITIONS. 8 Jan 60 [4]p. 2 refs. USASIA SC-72c/59.
Order from OTS or SLA $1.10 62-32179

Trans. of Akademie der Wissenschaften, Berlin. Monatsberichte (East Germany) 1959, v. 1, no. 1, p. 32-34.

DESCRIPTORS: *Plasma physics, *Relaxation time, Determination, *Gas discharges, *Lamps, Electric potential.

Shafranov, V. D.
EQUILIBRIUM OF A TOROIDAL PINCH IN A MAGNETIC FIELD. 21 May 63 [22]p. 13 refs. FTD-TT-63-374; AD-409 943.
Order from OTS or SLA $2.60 63-23446

Unedited rough draft trans. of #Atomnaya Energiya (USSR) 1962, v. 13, no. 6, p. 521-529.

DESCRIPTORS: *Magnetic fields, *Magnetic pinch, Stability, Equations, *Plasma physics.

The conditions of equilibrium of an axisymmetric toroidal pinch are obtained by analysis with respect to a/R (a and R - the small and large radius of torus) without concrete representation of the type of current distribution and of longitudinal magnetic field with respect to the pinch profile. It is assumed only, that in a zero approximation ($R = \infty$) the pinch has a

cylindrical symmetry. Refined formulas are given for pinch displacement in a conducting housing that are suitable in the second approximation, i.e., taking into account terms of the order $b^2/R2$, where b is the housing radius. (Author)

Suprunenko, V. A., Sukhomlin, E. A., and others.
CONDUCTIVITY OF PLASMA WITH LINEAR PINCH.
[1963] 4p. 9 refs. [DSIR] NLL M. 3692.
Order from OTS or SLA $1.10 63-23391

Trans. of #Zhurnal Tekhnicheskoi Fiziki (USSR) 1961, v. 31, no. 9, p. 1057-1060.

DESCRIPTORS: *Plasma physics, Electrical conductance, Measurement, Probes (Electromagnetic), *Electric discharges, Electric fields, *Magnetic pinch.

Research into the conductivity of plasma with linear high-current discharge was carried out with the help of magnetic probes. It was discovered that the conductivity of plasma and the duration of the pinch effect diminish as the intensity of the electric field in the plasma increases. In the case of normal high-current discharges, there is an indication that neutral atoms greatly influence plasma conductivity. (Author)

Vedenov, A. A. Velikhov, E. P., and Sagdeev, R. Z.
NON-LINEAR OSCILLATIONS OF RAREFIED PLASMA, I, tr. by R. Matthews. Oct 62 [64]p. 21 refs.
NP-tr-955.
Order from OTS or SLA $6.60 63-23323

Trans. of Nuclear Fusion (Austria) 1961, v. 1, no. 2, p. 82-100.

DESCRIPTORS: *Plasma physics, *Plasma oscillations, Acoustics, Magnetohydrodynamics.

Topics include: Some particular cases of non-stationary non-linear motions of rarefied plasma (electron oscillations of a "cold plasma", motion of a plasma across a magnetic field, motion of "cold" ions in a plasma in the absence of a magnetic field); multi-velocity currents in a rarefied plasma; some types of stationary nonlinear motion, (stationary ion waves with $p_i \ll p_e$, stationary magneto-acoustic waves of finite amplitude propagated across a magnetic field); "quasi-linear" approximation (development of the quasi-linear approximation equation, wave absorption in a plasma); and, stability of non-linear motions in a rarefied plasma (instabilities of multicomponent motion, instabilities of waves of finite amplitude propagated across a magnetic field).

Molecular Physics and Spectroscopy

Garif'yanov, N. S. and Usacheva, N. F.
THE ELECTRON PARAMAGNETIC RESONANCE IN SOLUTIONS OF Cr^{5+}. [1963] 3p. 8 refs.
Order from OTS or SLA $1.10 63-18419

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1962, v. 145 [no. 3] p. 565-566.

DESCRIPTORS: *Paramagnetic resonance, Solutions, *Chromium, Ions, Electrons, Absorption spectrum.

Kaiser, Wolfgang.
A NEW LIGHT ABSORPTION IN SILVER HALIDES. [1963] 14p. 25 refs.
Order from SLA $1.60 63-16637

Trans. of Zeitschrift für Physik (West Germany) 1952, v. 132, p. 497-507.

DESCRIPTORS: Light, Absorption, Silver, *Silver compounds, *Halides, Chlorides, Absorption spectrum, Colloids.

By using thin layers, the optically accessible spectral region is extended towards shorter wave lengths. In a pre-examination, it was demonstrated that the unpopulated centers of disturbance originating in the course of condensation influence the absorption constant. At low condensation temperatures, the end of the absorption curve, because of a high order of deficiency, is shifted towards longer wave lengths. Centers of disturbance populated by electrons have to be generated in a relatively high concentration in order to be optically detected. For that reason the silver halides are simultaneously condensed with silver at different temperatures T_o. At $T_o = 20^oK$ or $T_o = 90^oK$, the absorption spectrum of AgCl + Ag shows new bands at 375 and 530 mμ. The broad band at 375 mμ can be gradually removed by irradiation. In case of AgBr + Ag, corresponding bands at 400 mμ and 570 mμ originate. If the layers are heated to 300^oK, the well-known silver colloid appears. This is obtained immediately, if the simultaneous condensation occurs at $T_o = 300^oK$. For the short-wave band found at low temperature, the possibility of a building in of Ag of atomic dispersion or of a surface adsorption is discussed. Moreover, investigations on copper and gold as additional metals are mentioned. (Author)

Polyakova, A. A., Khmel'nitskii, R. A. and others.
MASS-SPECTROMETRIC ANALYSIS OF PRODUCTS WITH A HIGH CONTENT OF UNSATURATED HYDROCARBONS. [1963] 6p.
Order from ATS $8.15 ATS-66Q70R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1962, v. 7, no. 12, p. 59-64.

DESCRIPTORS: *Mass spectroscopy, *Hydrocarbons, Spectrum analyzers.

Siryuk, A. G. and Zimina, K. I.
CHARACTERISTICS OF THE ULTRAVIOLET SPECTRA OF SOME TYPES OF AROMATIC HYDROCARBONS (Osobennosti Ul'trafioletovykh Spektrov Nekotorykh Tipov Aromaticheskikh Uglevodorodov) tr. by J. Hardy. [1963] [11]p. (foreign text included) 4 refs. [CSIRO] Trans. no. 6197.
Order from OTS or SLA $1.60 63-19972

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1962 [v. 7] no. 5, p. 23-26.

DESCRIPTORS: Hydrocarbons, *Benzene derivatives, *Naphthalenes, *Phenanthrenes, *Anthracenes, *Pyrenes, *Chrysenes, Molecular structure, *Ultraviolet spectroscopy.

The work is based on the published spectra for certain types of aromatic hydrocarbons, from which the mean coefficients of extinction were calculated. From these the "average" spectra were established and the characteristic curves of the spectra were plotted proper to the nucleus in question, i.e. the particular type of hydrocarbon. In addition, the changes in the spectra were studied in connection with the number of substituents in the aromatic nucleus. (Author)

Stepanov, V. E.
THE ABSORPTION COEFFICIENT OF ATOMS IN THE REVERSE ZEEMAN EFFECT WITH ARBITARY DIRECTION OF MAGNETIC FIELD (Koeffitsient Pogloshcheniya Atomov v Obratnom Effekte Zeemana pri Proizvol'nom, Napravlenii Magnitnogo Polya). Aug 63, 21p 12refs NASA Technical Trans. F-110; N63-19859.
Order from OTS $0.75 63-11687

Trans. of [Akademiya Nauk SSSR]. Krymskaya Astroficheskaya Observatoriya. Izvestiya, 1958, v. 18, p. 136-150.

DESCRIPTORS: *Astrophysics, Spectroscopy, *Absorption spectrum, *Line spectrum, *Zeeman effect, *Light, *Polarization.

On the basis of the classical theory of magnetic effect, we have calculated the absorption coefficient of atoms in the reverse Zeeman effect with arbitrarily oriented magnetic field; also the polarization absorbed by the atoms. The effective absorption is reflected in the form of two absorption coefficients, s_+ and s_-, which correspond to two mutually orthogonal conditions of polarization of light. With adaptation to astrophysical phenomena for determining the contours of absorption lines, it is necessary to compile two equations for radiant energy which are mutually independent. (Author)

Tsuboi, Masamichi.
MOLECULAR STRUCTURE OF POLYPEPTIDES CONTAINING D-AMINO ACID RESIDUES, AS STUDIED BY INFRARED SPECTRA. [1963] [10]p. (figs. omitted) 18 refs.
Order from SLA $1.10 63-16250

Trans. of [Kagaku no Ryoiki (Japan) 1961, v. 15, p. 936-942].

DESCRIPTORS: *Molecular structure, *Peptides, Amino acids, *Infrared spectroscopy.

Yutis, A. P.
CONFIGURATION INTERACTION IN THE CARBON ATOM (Vzaimodeistvie Konfiguratsii v Atome Ugleroda). July 63, 26p. 9 refs. NASA Technical Trans. F-154; N63-19861.
Order from OTS $0.75 63-11690

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1949, v. 19 [no. 7] p. 565-576.

DESCRIPTORS: *Carbon, Atomic structure, Atomic orbitals, *Atomic energy levels, Electrons, *Field theory, Special functions, Quantum statistics, Matrix calculus.

The interaction of the $1s^22s^22p^2$, $1s^22p^4$, $1s^22s^22p3p$, and $1s^22s2p^23s$ configurations of the carbon atom is theoretically investigated. Over-all wave functions, are derived for these configurations. The energy matrix elements are expressed as single-electron wave functions. The single-electron wave functions, obtained by the self-consistent field method without quantum exchange, are used to compute the energy matrix elements both the diagonal and those connecting different configurations of the same affinity; the secular equations for each kind of term in the above-mentioned configurations are solved. (Author)

Yutsis, A. P.
GENERALIZATION OF THE THEORY OF PARTIAL SEPARATION OF VARIABLES TO INCLUDE THE CASE OF MULTIVALENT ATOMS (Obobshchenie Teorii Nepol'nogo Razdeleniya Peremennykh na Sluchai Mnogovalentykh Atomov). Aug 63, 22p 6refs. NASA Technical Trans. F-153
Order from OTS $0.75 63-11688

Trans. of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1952, v. 23 [no. 4(10)] p. 371-380.

DESCRIPTORS: Atomic structure, *Atomic energy levels, Atomic orbitals, *Valence, *Electrons, Spin, Quantum statistics, *Field theory, Special functions, Matrix calculus, Determinants.

With the aid of Laplace's theorem a linear combination of determinants, expressing the wave function of the whole atom, is transformed in such a way that the quantum numbers of the inner electrons are found in minors of the determinants and the quantum numbers of the valence electrons in their cofactors. The total energy of the atom is expressed with the aid of the wave function of the whole atom thus transformed. The general expression obtained is applicable to the case where the variables of the inner electrons are completely separated, and where the approximation of partial separation of variables applies to the valence electrons. This last expression for the total energy of the atom contains the spin-spin dependence in general form. (Author)

Optics

Atroshchenko, V. S., Glazova, K. S. and others.
CALCULATION OF THE BRIGHTNESS OF LIGHT IN THE CASE OF ANISOTROPIC SCATTERING, PT. 2. 1963, approx. 225p.
Order from CB pt. 2 $12.00
pt. 1, pub. 1960 $8.00
set price, v. 1-2 $17.50

Trans. of unidentified Russian mono., n.p., n.d.

DESCRIPTORS: *Light, Scattering, Atmosphere, Optical properties, *Brightness, Sky brightness.

Avdonin, V. I. and Novikov, I. I.
THE PROPAGATION OF SOUND IN SATURATED STEAMS OF LIQUIDS. [1963] [6]p. 5 refs. [DSIR] NLL M 3964.
Order from OTS $1.10 63-19865

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1961, v. 4, no. 12, p. 11-15.

DESCRIPTORS: *Sound, *Propagation, Vapors, Liquids, Velocity, Measurement, Acoustics, Water vapor.

The results of experiments concerning the measurement of the speed of sound in saturated water vapour are considered. From comparison of experimental data with theoretical formulae, conclusions are arrived at concerning the mechanism of propagation of sound waves in saturated vapours of liquids. (Author)

Kolomiitsov, Yu. V. and Dukhopel, I. I.
A CONTACT-FREE INTERFERENCE METHOD OF CHECKING SPHERICAL LENS SURFACES (Beskontaknyi Interferentsionnyi Metod Kontrolya Sfericheskii Poverkhnostei Linz) [1963] 6p. (figs. omitted). [DSIR] NLL M. 3686.
Order from OTS or SLA $1.10 63-23389

Trans. of Optika i Spektroskopiya (USSR) 1956, v. 1, no. 1, p. 94-101.

DESCRIPTORS: *Optical equipment components, *Lenses, Spheres, Surfaces, Test methods, Nondestructive testing, Interference, *Interferometers.

An interference method of determining local surface errors very accurately, and of measuring deviations of surface curvature from nominal was developed which involves no contact with the surface, thereby avoiding certain shortcomings inherent in applying test pieces to spherical lens surfaces. This method has several advantages. (Author)

Kozel, S. M.
ABOUT A CERTAIN METHOD OF RECORDING WEAK INFRARED RADIATION. 16 May 63 [7]p. 5 refs. FTD-TT-63-180; AD-409 093.
Order from OTS or SLA $1.10 63-23188

Unedited rough draft trans. of Fiziko-Tekhnicheskii Institut, Moscow. Trudy (USSR) 1962, v. 8, p. 73-76.

DESCRIPTORS: *Infrared radiation, Modulation, *Radiometers, *Phosphorus, Optical phenomen, Phosphorescence, Recording systems.

A description is given of a modulation radiometer in the near infrared region in which glowing phosphorus is used as the receiving element. (Author)

Severdenko, V. P., Pasechnyi, S. A., and Tochitskii, E. I.
EQUIPMENT FOR THE DEFORMATION OF FILMS IN THE ELECTRON MICROSCOPE (Pribor dlya Deformatsii Plenok v. Elektronnom Mikroskope) tr. by L. Meyer. Mar 62 [3]p. 5 refs. S. M. R. E. Trans. no. 4676; [DSIR] NLL M. 3742.
Order from OTS or SLA $1.10 63-19815

Trans. of Akad[emiya] Navuk BSSR [Minsk]. Dokl[ady] 1961, v. 5, no. 9, p. 387-388.

DESCRIPTORS: *Electron microscopy, *Thin films, Preparation, Deformation, *Precision equipment, Design.

Vanyukov, M. P., Mak, A. A., and Parazinskaya, N. V.
INVESTIGATION OF THE BRIGHTNESS OF THE CHANNEL OF A SPARK DISCHARGE IN ATMOSPHERES OF ARGON AND XENON, tr. by. V. Beak. Jan 62 [17]p. (figs. omitted) 8 refs. NP-tr-898; [DSIR NLL] M. 6356
Order from OTS or SLA $1.60 63-23298

Trans. of Optika i Spektroskopiya (USSR) 1956, v. 1, no. 5, p. 642-649.

DESCRIPTORS: *Light pulses, *Gas discharges, *Electric discharges, *Sparks, *Brightness, Measurement, Spectroscopy, Blackbody radiation, *Photoelectricity, *Argon, *Xenon.

A photoelectric method was used to investigate the spectral density of the energy brightness in the middle portion of the channel of a spark discharge in argon and xenon as a function of wavelength at different moments of time from the beginning of the discharge, with variation of the inductance of the discharge circuit. Saturation of the maximum instantaneous brightness of the channel in xenon was found to occur with decrease in the inductance of the discharge circuit. The limit value of this brightness is 11×10^6 stilbs. The discharge in an atmosphere of argon, under the same experimental conditions, shows an increase of brightness with decrease in inductance. A comparison is made of the radiation of a spark discharge with that of an absolutely black body. (Author)

Solid State Physics

Achard, Jean-Claude.
ON THE REDUCTION OF EUROPIUM SESQUIOXIDE AND THE PREPARATION OF EUROPIUM MONOXIDE, tr. by J. R. Miller. 20 Feb 62, 8p. 5 refs. [GE] TM-62-6-3.
Order from OTS or SLA $1.10 AEC-tr-5167

Trans. of Academie des Sciences, Paris]. Comptes Rendus (France) 1960, v. 250, no. 18, p. 3025 (pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Europium compounds, *Oxides, Reduction, Monoxides, Preparation, Phase studies, *Fused materials, *Rare earth elements, Crystal structure, Distillation.

The reduction of Eu_2O_3 with the formation of several intermediate compounds was conducted. A method of preparation of EuO is presented and a new phase with an O/Eu atomic ratio of 1.3 is reported. (Author)

Amelinckx, S. and others.
PHYSICAL PROPERTIES OF UO_2 CRYSTALS.
Quarterly rept. 4, 1 July-30 Sep 62, on Contract 063-61-10 RDB. [1963] [37]p. 8 refs.
Order from OTS or SLA $3.60 EURAEC-463

Trans. of a rept. from Centre d'Étude de l'Énergie Nucleaire, Mol (Belgium) n.d.

DESCRIPTORS: *Single crystals, *Uranium compounds, Dioxides, Preparation, Furnaces, Design, Thermal conductivity, Electrical conductivity, *Hall effect, *Thermoelectricity, *Crystal Lattices, Crystal lattice defects, Dissociation.

For abstract see Nuclear Science Abstracts 17: 1144, 1963.
(See also EURAEC-381)

Amelinckx, S. and others.
SWELLING OF URANIUM. Quarterly rept. 8, 1 July-30 Sep 62, on Contract 022-60-09 RDB. [1963] [31]p. CEEN R 2179.
Order from OTS or SLA $3.60 EURAEC-464

Trans. of a rept. from Centre d'Etude de l'Energie Nucleaire, Mol (Belgium) n.d.

DESCRIPTORS: *Uranium, *Foils, Preparation, Cold-working, Annealing, *Electrolytic polishing, *Grain structure (Metallurgy), *Radiation effects, *Crystal lattice defects, *Twinning (Crystallography), Crystal structure, Electron microscopy.

Observations were made of the defect structure in thin α-uranium foils of highest purity. A method was developed which appears to be suitable for the preparation of thin uranium foils of large grain size. Such foils were deformed or irradiated and then thinned for electron microscopic observation. The results are discussed on the basis of the orthorhombic crystal structure of α-uranium. (Author) (See also EURAEC-186)

Borodich, V. D., Golub, A. P. and others.
CRITICAL CURRENTS IN Nb-Zr ALLOYS IN THE EXTERNAL MAGNETIC FIELD. [1963] 15p. 6 refs.
Order from OTS or SLA $1.60 63-18028

Trans. of a report from Akademiya Nauk SSSR, Institut Atomnoi Energii im. V. I. Kurchatova, Moscow, 1962.
Another trans. is available from OTS or SLA $1.60 as AEC-tr-5473, 1962, 13p.

DESCRIPTORS: *Superconductivity, Superconductors, Electrical currents, *Magnetic fields, *Niobium alloys, *Zirconium alloys, Cold working, Sheets, Wire, Deformation, Heat treatment.

For abstract see Technical Translations 9: 1173, 1963.

Budylin, B. V. and Vorob'ev, A. A.
EFFECT OF IRRADIATION ON THE IONIC STRUCTURES: TABLE OF CONTENTS, tr. by A. Pingell. 1963, 3p. NRL Trans. no. 944.
Order from OTS $0.50 63-11682

Trans. of mono. Deistvie Izluchenii na Ionnye Struktury, Moscow, 1962, table of contents.

DESCRIPTORS: *Ions, *Crystal structure, *Radiation effects.

Chornyi, V. G.
THE EFFECT OF AGEING ON THE FINE CRYSTAL STRUCTURE OF A NIMONIC-TYPE ALLOY WITH A LOW TITANIUM CONTENT. Feb 62 [4]p. 5 refs. [DSIR] NLL M. 3774.
Order from OTS or SLA $1.10 63-19784

Trans. of Ukrayin[s'kyi] Fiz[ychnyi] Zhur[nal] (USSR) 1960, v. 5, no. 5, p. 687-692.

DESCRIPTORS: Heat resistant metals and alloys, *Crystal structure, *Titanium alloys, *Nickel alloys, Phase studies, *Chromium alloys, *Aluminum alloys.

Eckart, F.
THE TRANSFORMATION OF AMORPHOUS SELENIUM TO THE HEXAGONAL MODIFICATION. [1963] 2p.
Order from ATS $2.00 ATS-64Q70G

Trans. of Z[eitschrift für] Naturforsch[ung] (West Germany) 1961, v. 16b, p. 469-470.

DESCRIPTORS: *Selenium, Transformations, Crystallization, Crystal structure.

Fischer, Hellmut.
RELATIONSHIPS BETWEEN FORM AND SEPARATION CONDITIONS OF ELECTROLYTICALLY GROWN METAL CRYSTALS. IV. INFLUENCE OF FOREIGN SUBSTANCES DURING THE FORMATION OF BLOCK STRUCTURES IN A POLYCRYSTALLINE DEPOSIT (Zusammenhänge Zwischen Form und Abscheidungsbedingungen Elektrolytisch Gewachesener Metallkristalle. IV. Fremdstoffeinfluss bei der Entstehung von Blockstrukturen im Polykristallinen Niederschlag). [1963] [70]p. (foreign text included) 32 refs.
Order from SLA $6.60 63-16742

Trans. of Z[eitschrift] für Elektrochemie (West Germany) 1950, v. 54, no. 6, p. 459-477.

DESCRIPTORS: *Metallic crystals, *Impurities, Crystal structure, Inhibition, Twinning (Crystallography), Metals, Heat of sublimation, Electrolysis.

Topics include; influence of the inhibition on the form and orientation of the sub-individuals; growth forms determined by the inhibition of the aggregates of the sub-individuals; peculiarities of their structure and orientation; formation of twin crystals in the conversion from one growth form to the other; and, relationship

between inhibition sensitivity of the metals and the growth form favored as well as the relation of the inhibition to the specific free surface energy, the atom mobility and the heat of sublimation of the metals.

Fischer, Hellmut, Matschke, Horst, and Pawlek, Franz.
RELATIONSHIPS BETWEEN FORM AND SEPARATION CONDITIONS OF ELECTROLYTICALLY GROWN METALS. V. INFLUENCE OF STRUCTURE AND ORIENTATION ON THE SUBSTRATUM CRYSTALS ON THE REPRODUCTION OF THE BASE [Zusammenhänge Zwischen Form und Abscheidungsbedingungen Elektrolytisch Gewachsener Metallkristalle. V. Einfluss von Gestalt und Orientierung der Substratkristalle auf die Reproduktion der Unterlage). [1963] [29]p. (foreign text included) 7 refs.
Order from SLA $2.60 63-16743

Trans. of Z[eitschrift] f[ür] Elektrochemie (West Germany) 1950, v. 54, no. 6, p. 477-485.

DESCRIPTORS: *Metallic crystals, *Crystal structure, *Crystal growth, Reproduction, Copper, Thickness, Electrolysis.

Topics include: the base-oriented reproduction type; reproduction and adaptation; significance of the form and size of the sub-stratum crystals; and influence of the orientation of the sub-stratum crystals. (See also 63-16742)

Goryunova, N. A., Kotovich, V. A. and Frank-Kamenetskii, V. A.
COCRYSTALLIZATION OF HEXAGONAL CADMIUM SELENIDE WITH ZnSe, InAs, and In_2Se_3. [1963] 4p.
Order from ATS $4.50 ATS-05Q71R

Trans. of Zh[urnal] Tekhn[icheskoi] Fiz[iki] (USSR) 1955, v. 25, no. 14, p. 2419-2421.

DESCRIPTORS: *Cadmium compounds, *Zinc compounds, *Selenides, *Indium compounds, *Arsenides, Crystallization.

Gubanov, A. I.
DIFFUSION ET DÉRIVE DES PHOTOELÉCTRONS DANS UN SEMI-CONDUCTEUR PARTIELLEMENT ÉCLAIRÉ (Diffusion and Drift of Photoelectrons in a Partially Illuminated Semiconductor). 14p. 4 refs.
Order from OTS, ETC or CNRS $0.80 62-28083

Trans. in French of Zhurnal Tekhnicheskoi Fiziki (USSR) 1954, v. 24, p. 933-940.

DESCRIPTORS: *Semiconductors, *Photoelectrons, Diffusion, Crystals, *Light, *Electrical conductance, Theory.

Konobeevskji, S. T.
SUR LA THÉORIE DES TRANSFORMATIONS DE PHASE. III. TENSIONS NAISSANT AU COURS DE LA SÉPARATION DES PHASES D'UNE SOLUTION SOLIDE (Theory of Phase Transformations. III. Stresses Resulting from the Separations of Phases from a Solid Solution). 12p. 4 refs.
Order from OTS, ETC or CNRS $0.80 62-26499

Trans. in French of Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki (USSR) 1943, v. 13, no. 11/12, p. 418-427

DESCRIPTORS: *Phase transitions, Theory, Copper, *Aluminum, *Silver, Crystals, Alloys, Stresses.

Kozlov, P. V., Frolova, A. A., and Slesareva, L. F.
STRUCTURAL TRANSFORMATIONS IN CRYSTALLIZING POLYMERS AS ACCELERATED BY MECHANICAL INFLUENCE. [1963] [11]p. 9 refs.
Order from OTS or SLA $1.60 63-18289

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 145, no. 1, p. 125-128.

DESCRIPTORS: *Polymers, *Crystallization, Acceleration, Transformations, Crystal structure, Stresses, Mechanical properties, Carbonates, Relaxation time, *Polyester plastics.

It was shown that periodic mechanical influences lead to an increased orderly arrangement of polymeric structural elements and to the acceleration of structural transformation processes of crystallizing polymers. It was possible to separate the processes due to direct thermal factors from those produced by a mechanical influence. By using different frequencies of periodically applied stresses, optimum conditions were found for the process of certain transformations. A large relaxation spectrum for all vitrification and flow temperature ranges was also found. The relationship between the character of thermo-mechanical curves and frequency was shown.

Leonov, Yu. S.
LOS FOSFOROS ZINCO-BORICOS Y SUS PROPIEDADES LUMINISCENTES (Tsink-Boratnye Fosfory i Ikh Lyuminestsentnye Svoistva) (Zinc-Boron Phosphors and Their Luminiscent Characteristics). 12p. 9 refs.
CID: 62-251.
Order from OTS, ETC or CID $0.80 62-29251

Trans. in Spanish of Akademiya Nauk SSSR. Doklady, 1957, v. 114, no. 5, p. 976-978.
Another trans. is available in English from SLA as R-4173, 7p.

DESCRIPTORS: *Phosphors, Zinc compounds, Boron compounds, *Luminescence.

Muser, H. E. and Unruh, H. G.
THE FERROELECTRIC PROPERTIES OF DIFFERENT REGIONS OF ROCHELLE SALT CRYSTALS. [1963] 28p. 15 refs.
Order from SLA $2.60 63-16564

Trans. of Zeitschrift für Physik (West Germany) 1961, v. 162, p. 313-328.

DESCRIPTORS: *Ferroelectric crystals, Salts, Single crystals, *Crystal growth, Dielectric properties, *Ammonium radicals, *Sodium compounds, *Tartrates, *Potassium compounds, Impurities.

Rochelle salt single crystals contain various regions which differ in their dielectric properties (Curie temperature, maximum dielectric constant, shape of hysteresis loop). Every region consists of the crystal parts where, during growth, the material has been accumulated on the same crystal surface (growth region). Chemical and structure defects are assumed as the cause of these different properties. The effect of a small addition of ammonium-sodium-tartrate is investigated in detail. (Author)

Nikolaev, V. Yu. and Kasatochkin, V. I.
FIBROUS CARBON. 10 May 63 [24]p. 18 refs. FTD-TT-63-330.
Order from OTS $0.75 63-11663

Unedited rough draft trans. of Akademiya Nauk SSSR. Institut Goryuchikh Iskopaemykh. Trudy, 1962, v. 18, p. 135-148.

DESCRIPTORS: *Carbon, *Graphite, *Fibers (Natural), *Whiskers (Crystallography), *Crystal lattice defects, *Crystal growth, Catalysts, Hydrocarbons, Pyrolysis, Chemical precipitation

A study of the mechanisms of the formation of graphite "whiskers" by the precipitation of ethane and acetylene on carbon fibers revealed that the former grow from "breakage" nuclei on the surface of the fiber. Investigation established that thick fibers (0.2-100 mm) grow in a two-stage process: longitudinal growth of very thin fibers of constant cross-section is followed by radial growth. Elongation may be the result of a moving catalytic particle on the end of the fiber. A general discussion of the technology and mechanics of carbon fiber formation is included.

Pines, B. Ya.
BAKING, CREEP, REST, RECRYSTALLIZATION, AND OTHER PHENOMENA, CONVENTIONAL SELF-FIFFUSIONS IN CRYSTALLINE BODIES. [1963] [91]p.
Order from OTS or SLA $8.60 AEC-tr-5563

Trans. of Usp[ekhi] Fiz[icheskikh] Nauk (USSR) 1954, v. 52, no. 4, p. 501-559.

DESCRIPTORS: *Crystals, Heating, *Creep, Visocity, Crystallization, *Diffusion.

Topics include: Phenomena of baking; baking as a viscous flow (theory of Y. U. Frenkel; diffusion theory of baking and connection of it with the theory of viscous flow; complication of the phemonena of baking in practical conditions; certain experimental data about the speed of baking; baking as the appearance of diffused creep under the action of the forces of the external tension (the law of exactness of the diffused creep, baking under pressure, the creep of compact parts); phenomena of rest and influence of it on the kinetics of the diffusing creep (baking); recrystallisation; baking and creep of amorphous parts; about the connection of heterodiffusion with phenomena of self-diffusion in crystallized bodies.

Rocher, Yves-André.
THE STUDY OF THE ELECTRONIC STRUCTURE OF THE RARE EARTH METALS [L'Étude de la Structure Électonique des Métaux des Terres Rares]. Doctoral thesis, Paris U. (France). [1963] 88p. 40 refs.
Ordef from SLA $8.10 63-18030

Trans. of Advances in Physics (Gt. Brit.) 1962, v. 11, no. 43, p. 233-279.

DESCRIPTORS: *Rare earth elements, *Crystal structure, *Magnetic properties, Electrons, *Cerium Electrical conductance, Ytterbium, Actinide series, Europium, *Plutonium, *Crystal lattice deffects, *Atomic orbitals, Spin.

It was demonstrated that anomalies of crystalline structure are associated with the magnetic structure. In the magnetic gamma phase, the indirect actions between magnetic atoms are reinforced by the presence of magnetic moments. As the magnetic energy increases in absolute value, a decrease is observed in the total energy of the gamma phase. Self-energy exists in both the α and γ phases and can vary from one phase to the other with the number of conduction electrons. In solid solutions the electronic structure is probably very close to that of the free atom, which should carry an improtant magnetic moment. The case of a transition impurity exists in the first metals of the rare earth or actinide series. Phenomena above the temperature of anomaly, around 65°K rests on the existence of magnetic order below this temperature. This order is possible and consistent with all the properties of plutonium, even in the presence of a weak polarization. Anomalies of the thermoelectric power observed at the transition points are related to the different dependences of the spin correlations above and below the transition temperatures.

Ryabova, G. G. and Gruzin, P. L.
INVESTIGATING DIFFUSION MOBILITY OF ZIRCONIUM IN ZIRCONIUM-NIOBIUM ALLOYS. 31 May 63 [9]p. 8 refs. FTD-TT-63-258.
Order from OTS or SLA $1.10 63-23619

Unedited rough draft trans. of Metallurgiya i Metallovedenie Chistykh Metallov (USSR) 1961, v. 3, p. 120-126.

DESCRIPTORS: *Niobium alloys, *Zirconium alloys, Diffusion, Annealing, Radioactivation analysis, *Crystal lattices, Atomic structure.

The experimental data showed that the diffusion coefficient of zirconium in zirconium-niobium alloys, as well as the activation energy of diffusion and preexponential multiplier, depends upon the concentration of elements in the alloys. With a rise in niobium content in zirconium alloys, an increase in activation energy value was observed for the diffusion of zirconium. Simultaneously the diffusion mobility of zirconium atoms decreased. There was observed in the zone of existence of continuous solid solutions in the zirconium-niobium system, a smooth change of all diffusion parameters of zirconium with a rise in niobium content. Niobium alloying of zirconium hampered the occurrence of diffusion processes in zirconium and strengthened the force of the bond between atoms in the crystalline lattice. This, apparently, was connected with the rise in heat resistance of zirconium in alloys with niobium.

Ryzhanov, S. G.
THE ROLE OF OPTICALLY FORBIDDEN TRANSITIONS IN THE MECHANISM OF THE ABSORPTION OF LIGHT BY SILVER BROMIDE. [1963] 5p. 7 refs.
Order from OTS or SLA $1.10 63-16635

Trans. of Zhur[nal] Nauch[noi i] Prikład[noi] Fot-[ografii] i Kinemat[ografii] (USSR) 1959, v. 4, no. 2, p. 136-138.

DESCRIPTORS: *Silver compounds, *Bromides, Photosensitivity, Light, Absorption, Optical phenomena, *Solid state physics.

Sangster, Raymond C.
SEMICONDUCTOR AND THERMOELECTRIC SCIENCE AND TECHNOLOGY: SURVEY OF SOVIET LITERATURE. 29 May 63, 163p. 810 refs. PAL 63-35.
Order from OTS $3.00 63-11662

DESCRIPTORS: *Semiconductors, *Thermoelectricity, *Bibliographies, *Silicon, *Germanium, Physical properties, Electrical properties, Pressure, Heat, Radiation effects, Ultrasonic radiation, Surface properties, Impurities, Chemistry, Crystal structure, Thin films, Glass, Liquids, *Materials, *Crystals, Organic compounds, Halides, Chalcogens, Group V elements, Group IV elements, Group III elements, Alkaline earth metals, Alkali metals, *Scientific personnel, *Scientific organizations, *Periodicals.

The literature of the period 1950-61 was reviewed in an effort to evaluate Soviet capabilities in semiconductor and thermoelectric science. Papers are considered from the point-of-view of physical phenomenon oriented analysis of the properties of germanium and silicon, and from the point-of-view of material oriented studies. Also included are listings of principal Soviet contributors to semiconductor and semimetals research, principal Soviet semiconductor research institutions (with listing of major programs and key personnel), and leading Soviet technical journals for publications on semiconductor and thermoelectric science and technology.

Topchiev, A. V., Gliderikh, B. E. and others.
POSSIBILITE D'OBTENTION DE MATERIAUX POLYMERES A BASE DE POLYACRYLNITRILE POSSEDANT DES PROPRIETES SEMI-CONDUCTRICES (On the Possibility of Producting a Polymeric Material with Semiconductor Properties from Polyacrylnitryl). 8p. 5 refs.
Order from OTS, ETC or CNRS $0.80 62-26899

Trans. in French of Akademiya Nauk SSSR. Doklady, 1959, v. 128, no. 2, p. 312-316.
Other translations are available in English from LC or SLA mi$1.80, ph$1.80 as 61-10370, 60-10390, and 60-14273; from OTS or SLA $1.10 as 60-21773, APL/JHU TG-230-T167, 5p.; in German from TIB $1.40, 5p.

DESCRIPTORS: Polymers, *Acrylonitriles, *Semiconductors, Thermal stresses, High temperature research.

Vorob'ev, A. A., Vorob'ev, G. A., and Kostrygin, V. A.
THE MECHANISM OF ELECTRICAL BREAKDOWN OF SOLID DIELECTRICS IN A THIN LAYER. 14 Feb 62 [6]p. 6 refs. FTD-TT-62-1927; AD-298 654.
Order from OTS or SLA $1.10 63-15926

Unedited rough draft trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1962, no. 4, p. 66-68.

DESCRIPTORS: *Dielectric films, Crystals, Rock salt, Dielectric properties, *Electric discharges, Electrons.

Results of experiments with thin crystals of rock salt agree with the hypothesis of a multiavanche-streamer mechanism in the thin layer.

Zielinski, E.
STUDIES ON THE CRYSTALLINE STRUCTURE OF CADMIUM SULFIDE. [1963] 2p.
Order from ATS $2.50 ATS-47Q71P

Trans. of Roczniki Chem[ii] (Poland) 1953, v. 27, p. 207-208.

DESCRIPTORS: *Cadmium compounds, *Sulfides, *Crystal structure.

Thermodynamics

Gerber, R.
THEORETICAL STUDY OF THE INFLUENCE ON SURFACE TEMPERATURE OF A GEOMETRICAL PERTURBATION OF WALL OF AN ELECTRICALLY HEATED CHANNEL, tr. by M. S. Feldman. [1963] 22p.
Order from OTS or SLA $2.60 AEC-tr-4799

Trans. of C[ommissariat à l'] É[nergie] A[tomique, Paris] (France) no. 1430, 1960.

DESCRIPTORS: *Surface temperatures, *Heat transfer, Surface area, Numerical analysis, Electric potential, Perturbation theory.

In experiments on forced convection heat transfer in an electrically heated channel, the temperature of the channel face in contact with the fluid is generally calculated from the measured temperature of the isolated face. A process for measuring this temperature leads to the study of the theoretical influence of a local perturbation of the wall thickness on the temperature distribution in this wall. Various problems at the limits, posed by this question of measurement, are dealt with. (Author)

Keesom, W. H., Bijl, A., and Ierland, J. F. A. A. van.
LOG p, W DIAGRAMS OF CARBON MONOXIDE AND OF OXYGEN (Les Diagrammes Log p, W du Monoxyde de Carbone et de l'Oxygène) tr. by Frank E. E. Germann [26 Sep 61] [23]p. 44 refs.
Order from OTS or SLA $2.60 62-24057

Trans. of Applied Scientific Research. [Section] A. (Netherlands) 1955, v. 5, p. 349 (also pub. in [Leyden Rijksuniversiteit]. Kamerlingh Onnes Lab[oratorium]. Commun[ications]. Supplement (Netherlands) 1955, no. 112d).

DESCRIPTORS: *Carbon compounds, *Monoxides, *Oxygen, Pressure, *Enthalpy, *Entropy, Energy, *Equations of state, Phase studies, Graphic analysis.

A log pressure-enthalpy diagram was established for carbon monoxide extending from -205 to 200°C and from 0.15 to 300 normal atmospheres. For oxygen a log pressure-enthalpy diagram was established extending from -200 to 200°C and from 0.11 to 300 normal atmospheres. (Author)

Klein, S.
THE DIRECT CONVERSION OF THERMAL ENERGY INTO ELECTRICAL ENERGY. [1962] 12p.
Order from K-H $15.00 K-H 12511

Trans. of mono. International Conference on Ionization Phenomena in Gases (no. 5) Munich, 1961. Proceedings, p. 806-[814].

DESCRIPTORS: *Energy conversion, *Heat transfer, *Electric power production, Thermal conductivity, Conferences, Gas ionization.

[Klein, Siegfried].
ELECTRICITY: ON AN EFFECT OF DIRECT CONVERSION OF HEAT TO ELECTRICITY [Electricite; sur un Effet de Conversion Directe de la Chaleur en Electricite]. [1962] 3p.
Order from K-H $3.75 K-H-12510

Trans. of [Academie des Sciences, Paris]. Comptes Rendus (France) 1962, v. 254, 12 Mar, p. 1946-1947 (pub. by Gauthier-Villars et Cie., Paris).
Another trans. is available from SLA $1.10 as 63-14376 [1963] [5]p.

DESCRIPTORS: Electricity, *Heat, *Energy conversion, Electric power production.

Kudryashev, L. I. and Dzevul'skii, V. A.
DEMONSTRATING THE EXISTENCE OF HEAT REGULARITY IN A BOUNDARY LAYER IN INTERNAL PROBLEM CONDITIONS. 16 May 63 [18]p. 5 refs.
AID rept. T-63-70; AD-405 033.
Order from OTS or SLA $1.60 63-19581

Trans. of paper presented at the Conference on Heat and Mass [Transfer] Minsk [5-10] June 61.

DESCRIPTORS: *Heat, Stability, *Boundary layer, Cooling, Velocity, Measurement, Turbulence, Heat transfer.

If heat regularity exists in a turbulent nucleus then it also necessarily exists in the region of the boundary layer in relation to average temperature of heat content in the layer, and conversely, if there is regularity in the temperature of the boundary layer then there will always be a regular heat field at any point of the turbulent nucleus flow. The relationship between the cooling rate along the length in the laminar sublayer and number Ref has been established. This relationship makes it possible to determine the unknown value without resorting to measurement of field temperature according to thickness of the laminar sublayer and knowing only the rate and temperature field within the limits of measurement. (Author)

Lutz, O.
GRAPHICAL DETERMINATION OF WALL TEMPERATURE DURING HEAT TRANSFER. [1963] 7p. (figs. omitted) 1 ref.
Order from SLA $1.10 63-16034

Trans. of Forschung [auf dem Gebiete des Ingenieurwesens] (Germany) 1935, v. 6, no. 5, p. 240-244.
Another trans. is available from SLA as 58-471, 8p. $3.60.

DESCRIPTORS: *Heat transfer, Bodies of revolution, Temperature, Surface temperatures, Geometric forms.

Novikov, P. A.
EFFECT OF THE RADIANT HEAT COMPONENT ON HEAT TRANSFER IN VACUUM SUBLIMATION (Vliyanie Luchistoi Sostavlyayushchei na Kharakter Teploobmena pri Sublimatsii v Vakuume). Aug 63, 9p. 3 refs. NASA Technical Trans. F-178; N63-19865.
Order from OTS $0.50 63-11694

Trans. of #Inzhenerno-Fizicheskii Zhurnal (USSR) 1962, v. 5, no. 12, p. 80-83.

DESCRIPTORS: *Heat transfer, Vacuum apparatus, Thermodynamics, Naphthalenes, *Thermal radiation, Sublimation.

The object of this paper is to determine the effect of the radiant component of the total heat balance on the nature of the heat and mass transfer for a constant temperature of the vacuum chamber walls and variable pressure of the ambient medium. The experiments on the sublimation of a naphthalene sphere at different pressures of the ambient medium show that the specific radiant heat flux increases monotonically with decrease in the total pressure whereas the total heat flux varies with the pressure in accordance with a more complicated law. As for the contribution of the radiant component to the total heat transfer, it assumes different values as the pressure varies. (NASA abstract)

Ornatskii, A. P. and Kichigin, A. M.
AN INVESTIGATION OF THE DEPENDENCE OF THE CRITICAL HEAT LOAD ON MASS FLOW RATE, SUBCOOLING, AND PRESSURE. 1963 [13]p. 7 refs. FT-672.
Order from OTS or SLA $1.60 AEC-tr-5710

Trans. of Teploenergetika (USSR) 1961, v. 8, no. 2, p. 75-79.

DESCRIPTORS: *Heat transfer, *Mass transfer, Fluid flow, Kinetics, Cooling, Pressure, *Heat exchangers, Effectiveness.

Perel'man, T. L.
HEAT EXCHANGE IN THE LAMINAR BOUNDARY LAYER DURING FLOW AROUND A THIN PLATE WITH INTERNAL SOURCES. 16 May 63 [11]p. 6 refs. AID rept. T-63-74. AD-405 034.
Order from OTS or SLA $1.60 63-19578

Trans. of paper presented at the Conference on Heat and Mass [Transfer] Minsk [5-10] June 61.
A trans. of an abstract of this article is available from OTS or SLA $11.00 in 62-15202, MCL-1407, 16 Nov 61 [148]p.

DESCRIPTORS: *Heat transfer, *Laminar boundary layer, Fluid flow, Liquids, Disks, Thermal conductivity, Partial differential equations, Numerical analysis.

Vargaftik, N. B. and Oleshehuk, O. N.
THERMAL CONDUCTIVITY OF HEAVY WATER VAPOR (Teploprovodnost' Para Tyazheloi Vody). Apr 63 [9]p. 10 refs. RTS-2266.
Order from OTS or SLA $1.10 63-23248

Trans. of Teploenergetika (USSR) 1962 [v. 9] no. 12, p. 64-66.

DESCRIPTORS: *Heavy water vapors, *Thermal conductivity.

The results are reported of experimental measurements of the thermal conductivity of heavy water vapour at temperatures from 150 to 500°C and pressures from 1 to 250 kg/cm^2. The ratios of the thermal conductivity of D_2O to that of H_2O in the liquid and gaseous phases are indicated. (Author)

Zubarev, V. N. and Telegin, G. S.
COMPUTATION OF THE PARAMETERS OF DETONATION WAVES OF CONDENSED EXPLOSIVES. [1963] 6p. (figs. tables omitted) 16 refs.
Order from OTS or SLA $1.10 63-18309

Trans. of Akademiya Nauk SSSR. Doklady, 1962, v. 147, no. 5 [p. 1122-1125].

DESCRIPTORS: *Detonation waves, Explosive materials, *Equations of state, Explosions.

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

APPLIED CYBERNETICS: [SELECTED] ARTICLES. 2 Aug 63, 32p. 41 refs. JPRS: 20486.
Order from OTS $1.00 63-31445

Trans. of Avtomatyka (USSR) 1962, v. 7, no. 6, p. 3-9, 20-39.

DESCRIPTORS: *Cybernetics, *Control systems, Economics, Models (Simulations), Computers, Automation, Industrial production, Analog systems.

Contents:
Choice of compound link coefficients of combined control systems, by I. D. Kochubievskii
The study of economic systems with the aid of physical analogs, by V. V. Kleshchov
Computer for automatic control of complex production processes, by B. N. Malinovskii and I. A. Yanovich

SOVIET SCIENTIFIC ACTIVITIES AND PERSONALITIES. 20 Aug 63, 68p. JPRS: 20730.
Order from OTS $2.00 63-31581

Trans. of Akademiya Nauk SSSR. Sibirskoe Otdelenie. Izvestiya, 1962, no. 2, p. 131-132; no. 11, p. 157-159; #Atomnaya Energiya (USSR) 1962 [v. 13, no. 4] p. 388-390, 393-394; [no. 5] p. 497-500; 1963 [v. 14] no. 2, p. 221-224; no. 3, p. 330-332; no. 4, p. 353; no. 6, p. 591-593, 595-600.

DESCRIPTORS: *Scientific research, *Scientific personnel, *Chemists, *Physicists, *Electric power production, *Materials, *Radiation effects, Purification, *Radiobiology, *Elementary particles, *Neutron scattering, *Particle accelerators, Radiochemistry, *Reactor hazards, *Radiation chemistry, *Betatrons, *Health physics.

Contents:
Anatolii Vasil'evich Nikolaev
Mikhail Aleksandrovich Leontovich
Conference on Electrification of Siberia, Development and Unification of its Power Systems [Irkutsk, Dec 61] by Yu. P. Grachev
Effect of nuclear radiation on the properties of materials, by M. S. Koval'chenko and Neshpor

International Symposium on the Use of Ultrapure M Materials [Dresden, 1961] by Yu. D. Schultz and L. Vukel'

Symposium on the Molecular Mechanisms of the Biological Effect of Ionizing Radiation [Brno, 1962] by Yu. S. Lazurkin

All-Union Conference of Schools of Higher Education on the Theory of Elementary Particles (no. 4) [Uzhgorod, Nov 62] by A. L. and F. N.

International Symposium on Inelastic Scattering of Neutrons by Solids and Liquids (no. 2) [Chalk River, Sep 62] by N. Chernoplekov

Conference on the Use of Particle Accelerators in Radiochemistry [Moscow, May 62] by E. V. Egorov and M. Ya. Kaplunov

Conference on "Changes in the Properties of Materials Under the Influence of Radiation" [Tomsk, Nov 61] by D. Vaisburd and Yu. Zakharov

Symposium on Reacton Safety and Methods of Appraising Danger [May 62] by A. Veselkin

International Symposium on Radiative Chemistry [Tikhan, Sep 62] by V. M. Patskevich

Conference of the Construction and Use of Betatrons [Bucharest, Nov 62] by V. N. Nikeshichev and R. V. Sinitsyn

Czechoslovak Conference on Radiation Safety [Tatransk Lomnits, Dec 61] by Yu. V. Sivintsev.

TRANSLATED POLISH PATENTS (FIRST CLAIM ONLY). [Sep 63] [120]p.
Order from OTS $2.50 63-11419

Trans. of Polish patents including patent numbers, class number, name and residence of patentee and patent owner, title, filing and priority date, and first claim of patents from the following years: 1957, 11 patents; 1958, 2 patents; 1960, 88 patents; 1961, 164 patents; 1962, 85 patents.

DESCRIPTORS: *Patents, Inventions, *Poland, *Fuels, Clothing, Mining engineering, Power supplies, Fertilizers, Heat transfer, Iron, Steel, Railroads, Electrical engineering, Coatings, Dyes, Medical equipment, Casting, Machines, Heaters, Hoists, Wood, Plastics, Rubber, Metals, Precision equipment, Agriculture, Propulsion, Manufacturing methods, Paper, Pumps, Aeronautics, Vehicles, Marine engineering, Ceramics, Hydraulics, Carbohydrates

TRANSLATED POLISH PATENTS (FIRST CLAIM ONLY). [Sep 63] [109]p.
Order from OTS $2.50 63-11418

Trans. of Polish patents including patent number, class number, name and residence of patentee and patent owner, title, filing and priority date, and first claim of patents from the following years: 1960, 13 patents; 1961, 123 patents; 1962, 193 patents.

DESCRIPTORS: *Patents, Inventions, *Poland, Fuels, Mining engineering, Fermentation, Metals, Textiles, Chemical engineering, Printing, Iron, Steel, Railroads, Electrical engineering, Coatings, Dyes, Medical equipment, Casting, Glass, Machines, Hoists, Heaters, Wood, Rubber, Plastics, Agriculture, Manufacturing methods, Food, Paper, Aeronautics, Vehicles, Marine engineering, Cutting tools, Explosive materials, Ceramics, Hydraulics

TRANSLATIONS ON COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY NO. 42. 22 July 63, 34p. 65 refs.
JPRS: 20294.
Order from OTS $1.00 63-31353

Trans. of K'o Hsüeh T'ung Pao (Chinese People's Republic) 1963, no. 4, p. 32-38; and from K'o Hsüeh Ta Chung (Chinese People's Republic) 1963, no. 5; Chin Jih Hsin Wen (Chinese People's Republic) 1963, 16 May, p. 3.

DESCRIPTORS: *Scientific research, *China, Medical research, Neoplasms, Chemotherapeutic agents, Drugs, Transportation, Ships (Nonmilitray), Agriculture, Algae, Agricultural machinery, Textile industry, Veterinary medicine.

Contents:
Initial achievements in research on anti-tumor drugs in this country, by Ch'en Hsin-ch'ien
Dairen maritime transportation institute
Chinese agricultural institute, Shensi Branch
The study of kelp
Activities of three research institutes.

TRANSLATIONS ON COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY NO. 46. 9 Aug 63, 11p.
JPRS: 20569.
Order from OTS $0.50 63-31488

Trans. from Kuang Ming Jih Pao (Chinese People's Republic) 1963, 1 July, p. 2; 8 July, p. 1; 13 July, p. 2.

DESCRIPTORS: *Scientific research, *China, Students, Labor, Research program administration, Physical chemistry, *Soils.

Contents:
Experiences in productive labor by students, by Fang Hua-ts'an
Institute of physical chemistry marshals joint talents to achieve research goal
Chernozem of Manchuria.

TRANSLATIONS ON COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY NO. 47. 22 Aug 63, 13p.
JPRS: 20769.
Order from OTS $0.50 63-31600

Trans. from Kuang Ming Jih Pao (Chinese People's Republic) 1963, 11 July, p. 2 and 23 July, p. 2.

DESCRIPTORS: *Scientific research, *China, *Soils, Fertilizers, Moisture, *Veterinary medicine, Medical research.

TRANSLATIONS ON COMMUNIST CHINA'S SCIENCE AND TECHNOLOGY NO. 48. 13 Sep 63, 24p. JPRS: 21090.
Order from OTS $0.75 63-31766

Trans. of K'o Hsueh Ta Chung (Chinese People's Republic) 1963, no. 7, p. 1-3, 18-19; Shui Li Hsueh Pao (Chinese People's Republic) 1963 [v. 10] no. 1, p. 77; T'u Jang Hsueh Pao (Chinese People's Republic) 1963, v. 11, no. 1, p. 109-110; and from Chin Jih Hsin Wen (Chinese People's Republic) 1963, 1 July, p. 7-8.

DESCRIPTORS: Translations, *Scientific research, *China, Trachoma, Viruses, Diseases, Mycobacterium tuberculosis, *Medical research, *Conferences, *Soil mechanics, *Foundations (Structures), *Climatology.

Blokh, E. L. and Kharkevich, A. A.
GEOMETRIC THEORY OF THE THRESHOLD OF THE CAPACITY OF A COMMUNICATION SYSTEM [Geometricheskaya Teoriya Poroga Propusknoi Sposobonosti Sistemy Svyazi]. [1961] 6p. 2 refs. MDF B-115.
Order from OTS or SLA $1.10 62-23014

Trans. of Radiotekhnika (USSR) 1955, v. 10, no. 7, p. 3-7.

DESCRIPTORS: *Communication systems, Signals, Transmission, Interference, Geometry, Theory.

A geometric theory of the threshold of the capacity is given in this paper. It is shown that the limiting capacity (i.e., the capacity with the probable error as small as desired) becomes zero when the average signal and interference powers are compared. (Author)

Chernenko, A. K.
GENERAL CONFERENCE OF THE SIBERIAN BRANCH OF THE ACADEMY OF SCIENCES USSR (NO. 2). 28 May 63 [7]p. FTD-TT-63-237.
Order from OTS or SLA $1.10 63-23192

Unedited rough draft trans. of A[kademiya] N[auk] SSSR. Sibirskoe Otdelenie. Izvestiya, 1958, no. 12, p. 93-94.

DESCRIPTORS: *Conferences, *Universities, *Construction, Scientific research, Science, Siberia.

Lyapunov, A. A., ed.
PROBLEMS OF CYBERNETICS, 1962, NO. 7. 23 Aug 63, 292p. 84 refs. JPRS: 20790.
Order from OTS $4.00 63-31610

Trans. of #Problemy Kibernetiki (USSR) 1962, no. 7 [p. 3-235].

DESCRIPTORS: *Cybernetics, *Control systems, *Communication theory, *Coding, *Programming (Computers), Scheduling, *Economics, *Language, Machine translation, Applied mathematics, Conferences.

Contents:
General problems
Control systems theory
Information theory and coding
Programming
Problems of mathematical economics
Problems of mathematical linguistics
Brief reports
Current chronicle.

Tarasenko, F. P. and Siforov, V. I.
THE DEFINITION OF THE CONCEPT OF "INFORMATION" IN CYBERNETICS [AND] GENERAL TRENDS IN THE DEVELOPMENT OF MODERN NATURAL SCIENCE. 2 Aug 63, 26p. JPRS: 20464.
Order from OTS $0.75 63-31436

Trans. of Voprosy Filosofii (USSR) 1963, [v. 17] no. 4, p. 76-96.

DESCRIPTORS: *Cybernetics, *Communication theory, *Scientific research, Philosophy.

SOCIAL SCIENCES

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 58. 29 July 63, 19p. JPRS: 20395
Order from OTS $0.75 63-31406

Trans. of Agitator (USSR) 1963, no. 11, p. 44-46; Kommunist Estonii (Estonian SSR) 1963 [v. 19] no. 4, p. 42-49 and from Leninskoe Znamya (USSR) 1963, 26 May, p. 2.

DESCRIPTORS: *Industrial production, *Economics, Corrosion inhibition, Metals, Automation, Machines.

Contents:
Combating metal corrosion in the USSR, by I. Litinetskii
Problems of full mechanization and automation of production in machine building of the Estonian Republic, by E. Kull'
Conference on machine building in Moscow area.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 66. 19 Aug 63, 12p. JPRS: 20684.
Order from OTS $0.50 63-31554

Trans. of Partiinaya Zhizn' Kazakhstana (USSR) 1963 [v. 33] no. 4, p. 24-29; from Agitator (USSR) 1963, no. 11 (partial); Vechernyaya Moskva (USSR) 1963, 6 June, p. 1, 4.

DESCRIPTORS: *Industrial production, *Economics, Industries, Scientific personnel.

THE 1963 CONGRESS AND GENERAL ASSEMBLY OF THE HUNGARIAN ACADEMY OF SCIENCES.
19 Sep 63, 102p. JPRS: 21151.
Order from OTS $2.50 63-31796

Trans. of Magyar Tudomany (Hungary) 1963 [v. 8(70)] no. 5, p. 301-365.

DESCRIPTORS: *Scientific organizations, *Conferences, Social sciences, Scientific research.

Contents:
Opening address
Report of the presidium
Address
New tasks of social science creative work
Problems of basic technical research

Contents:
Industrial development in eastern Kazakhstan, by A. Kolebaev
Rapid industrial growth in Buryat ASSR, by D. Lubsan
In the Moscow City sovnarkhoz
Announcement of position competition.

Kruger, R.
EXPRESSION OF VIEWS REGARDING THE NEW DETERGENTS LAW. [1963] 10p
Order from ATS $12.75 ATS-67Q71G

Trans. of [Erdöl und Kohle-Erdgas-Petrochemie] (West Germany) 1963, v. 16, no. 5, p. 379-382.

DESCRIPTORS: *Cleaning compounds.

Smith, R. E. F., compiler.
SOCIAL SCIENCE TERMS: RUSSIAN-ENGLISH DICTIONARY, 1962, 507p.
Order from Butterworth Inc., 7235 Wisconsin Ave., Washington 14, D. C. $17.50

DESCRIPTORS: *Social sciences, *Dictionaries.

Documentation

FOREIGN DEVELOPMENTS IN MACHINE TRANSLATION AND INFORMATION PROCESSING NO. 137.
22 Aug 63, 20p. 6 refs. JPRS: 20763.
Order from OTS $0.75 63-31598

Trans. of Dokumentation (East Germany) 1962, v. 9, no. 5, p. 139-141; 1963, v. 10, no. 1, p. 9-16.

DESCRIPTORS: *Machine translation, *Documentation, *East Germany

Contents:
Documentation-information and the chanber of technology, by G. Weissflog
Information for directorial staffs in the government, the economy, and party organizations, by Josef Koblitz

Szepesi, Maria.
MEDICAL DOCUMENTATION IN HUNGARY. Foreign Developments in Machine Translation and Information Processing No. 134. 29 July 63, 12p. JPRS: 20358.
Order from OTS $0.50 63-31383

Trans. of Dokumentation (East Germany) 1962, v. 9, no. 6, p. 178-181.

DESCRIPTORS: *Documentation, *Medicine, *Hungary, Libraries.

Telechun, Stanislaw.
NEW ORGANIZATION FOR SCIENTIFIC-TECHNICAL AND ECONOMIC INFORMATION IN POLAND, PTS. I-II. Foreign Developments in Machine Translation and Information Processing No. 136. 14 Aug 63, 25p. JPRS: 20640.
Order from OTS $0.75 63-31530

Trans. of Dokumentation (East Germany) 1962, v. 9, no. 5, p. 131-136, 165-169.

DESCRIPTORS: *Scientific information centers, *Documentation, *Economics, *Poland.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-CHICOM/6200
Ts'ai Ssu-wei
STRESS ANALYSIS OF BEAMS ON ELASTIC FOUNDATION (Tan Hsing Ti Chi Liang Chieh Fa) Shanghai, Shang-hai k'o hsüeh chi shu ch'u pan she, 1962, 167p. 3000 copies printed.

BR-RUM/6236
Patraulea, N. N.
STUDY OF AERODYNAMICS OF HYPERSUSTENTATION; SHORT AND VERTICAL TAKEOFF AND LANDING (Studii de aerodinamica hipersustentatiei; zborul cu decolare si aterizare scurta sau la verticala) [Bucharest] Ed. Academiei RPR, 1962. 625p. 750 copies printed.

BR-SOV/6287
Lebedev, Aleksandr Aleksandrovich, and Lev Semenovich Chernobrovkin.
FLIGHT DYNAMICS OF PILOTLESS AIRCRAFT (Dinamika poleta bespilotnykh letatel'nykh apparatov) Moskva, Oborongiz, 1962. 548p. Errata slip inserted. 7000 copies printed.

BR-SOV/6295
Kapitsa, Petr Leonidovich
HIGH-POWER ELECTRONICS (Elektronika bol'shikh moshchnostey) Moscow, Izd-vo AN SSSR, 1962. 194p. Errata slip inserted. 5000 copies printed.

BR-SOV/6298
Isakov, Petr Kuz'mich, and Rostislav Andreyevich Stasevich
VELOCITIES, ACCELERATIONS, AND WEIGHTLESSNESS; SOME PROBLEMS IN PHYSICS AND PHYSIOLOGY AND APPLIED TO ATMOSPHERIC AND OUTER SPACE FLIGHT (Skorosti, uskoreniya, nevesomost'; nekotoryye voprosy fiziki i fiziologii primenitel'no k poletam v atmosfere i kosmicheskom prostranstve) 2d ed., rev. and enl. Moscow, Voyenizdat M-va oborony SSSR, 1962. 148p. (Series: Nauchno-populyarnaya biblioteka Voyennogo izdatel'stva) 12,500 copies printed.

BR-SOV/6299
Shvedov, V. P. and S. I. Shirokov
ENVIRONMENTAL RADIOACTIVE CONTAMINATION (Radioaktivnyye zagryazneniya vneshney sredy). Moscow, Gosatomizdat, 1962. 274p. Errata slip inserted. 4000 copies printed.

BR-SOV/6300
Isachenkov, Ye. I.
RUBBER AND LIQUID DIE FORMING (Shtampovka rezinoy i zhidkost'yu) Moscow, Mashgiz, 1962. 327p. Errata slip inserted. 6200 copies printed.

BR-SOV/6301
Balabukha, V. S., L. M. Razbitnaya, N. O. Razumovskiy, and L. I. Tikhonova
THE PROBLEM OF ELIMINATING LONG-LIVED RADIOACTIVE ISOTOPES FROM ORGANISMS (Problema vyvedeniya iz organizma dolgozhivushchikh radioaktivnykh izotopov) Moscow, Gosatomizdat, 1962, 166p. Errata slip inserted. 4000 copies printed.

BR-SOV/6302
Letov, Aleksandr Mikhaylovich
STABILITY OF NON-LINEAR CONTROL SYSTEMS (Ustoychivost' nelineynykh reguliruyemykh sistem) 2d ed. rev. and enl. Moscow, Fizmatgiz, 1962. 483p. 10,000 copies printed.

BR-Z/6305
Pribil, Rudolf, Docent
CHELATOMETRY. V. 1: GENERAL PRINCIPLES (Komplexometrie. [v.] 1: Zakladni stanoveni) Prague, SNTL, 1957, 103p. 3250 copies printed.

BR-SOV/6307
Yesenberlin, Ravnak Yesenberlinovich
BRAZING OF METALS IN FURNACES WITH CONTROLLED ATMOSPHERE (Payka metallov v pechakh s gazovoy sredoy) 2d ed., rev. and enl. Moscow, Mashgiz, 1962. 127p. Errata slip inserted. 7000 copies printed.

BR-SOV/6308
Fedot'yev, N. P., N. N. Bibikov, P. M. Vyacheslavov, and S Ya. Grilikhes
ELECTROLYTIC ALLOYS (Elektroliticheskiye splavy) Moscow, Mashgiz, 1962. 311p. 12,500 copies printed.

BR-SOV/6309
Starodubtsev, S. V., and A. M. Romanov
PENETRATION OF CHARGED PARTICLES THROUGH MATTER (Prokhozhdeniye zaryazhennykh chastits cherez veshchestvo) Tashkent, Izd-vo AN UzSSR, 1962. 226p. 2500 copies printed. Added t.p. in Uzbek.

BR-SOV/6310
Chentsov, R. A.
ACTION OF THERMAL EFFECTS ON THE RESPONSE SPEED OF THE SUPERCONDUCTING ELEMENTS OF A COMPUTER (Vliyaniye teplovykh effektov na bystrodeystviye sverkhprovodyashchikh elementov vychislitel'noy mashiny) Moscow, 1961. 45p. (Series: Elektronnyye vychislitel'nyye mashiny) 500 copies printed.

BR-SOV/6312
Rozenberg, L. D., V. F. Kazantsev, L. O. Makarov, and D. F. Yakhimovich
ULTRASONIC MACHINING (Ul'trazvukovoye rezaniye) Moscow, Izd-vo AN SSSR, 1962. 251p. Errata slip inserted. 5000 copies printed.

TRANSLATIONS IN PROCESS

NEWS OF THE ACADEMY OF SCIENCES USSR, DEPARTMENT OF TECHNICAL SCIENCES, TECHNICAL CYBERNETICS, 1963, NO. 4.
Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauck. Izvestiya: Tekhnicheskaya Kibernetika, 1963, no. 4.

[PROBLEMS OF PSYCHOLOGY] 1963, NO. 4: SELECTED ARTICLES.
Voprosy Psikhologii (USSR) 1963, no. 4, p. 3-20, 135-158.

Arnol'di, I. A.
ACCLIMATIZATION OF THE HUMAN IN THE NORTH AND SOUTH.
Mono. Akklimatizatsiya Cheloveka na Severe i Yuge, Moscow, 1962, 70p.

Kapitsa, P. L.
HIGH POWER ELECTRONICS.
Mono. Elektronika Bol'shikh Moshchnostei, Moscow, 1962, p. 159-194.

Skulme, K. A.
ON RATIONAL NUTRITION OF ONCOLOGICAL PATIENTS DURING THE PERIOD OF THEIR TREATMENT WITH RADIATION.
[Akademiya Nauk] Latviiskoi SSR, Riga. Institut [Experimental'noi Meditsiny]. Trudy, 1962, v. 28, no. 4, p. 171 243.

Timofeeva-Resovskaya, E. A.
THE DISTRIBUTION OF RADIOISOTOPES ON BASIC COMPOMENTS OF FRESHWATER BODIES (Raspredelenie Radioisotopov po Osnovnym Komponentam Presnovodnykh Vodoemov).
Akademiya Nauk SSSR. Institut Biologii, Sverdlovsk. Trudy, 1963, no. 30, p. 1-79.

Usmonov, Kh. U. and Nikonovich, G. V.
ELECTRON MICROSCOPY OF CELLULOSE.
Mono. Elektronnaya Mikroskopiya Tsellyulozy, Tashkent, 1962, 263p.

Vinitskii, A. S.
REVIEW OF THE FUNDAMENTALS OF CONTINUOUS WAVE RADAR.
Mono. Ocherk Osnov Radiolokatsii pri Nepreryvnom Uzluchenii Radiovoln, Leningrad, 1961, 474p.

PERIODICALS TRANSLATED COVER-TO-COVER

For basic list of Periodicals Translated Cover-to Cover see Technical Translations Volume 10, Number 1.

This basic list is kept up-to-date by giving only changes in the subsequent issues of Technical Translations.

Please note the following changes:

AKADEMIYA NAUK SSSR. DOKLADY
(Soviet Physics - Doklady)

Translation begins with 1956, v. 106, nos. 1-6- Single issues, 1956-1957, $5.00; 1958-1962, $7.00; 1963ff. $4.00

Order from:
American Institute of Physics — $35.00/year
335 East 45th Street — $25.00/year*
New York, New York 10017

AKADEMIYA NAUK SSSR. OTDELENIE KHIMICHESKIKH NAUK. IZVESTIYA
(Bulletin of the Academy of Sciences of the USSR. Division of Chemical Sciences)

Translation begins with 1952, v. 16, no. 1- 1952-1955, $80.00/volume; 1956, $160.00; 1957-1959, $45.00/volume; 1960, $80.00; 1961, $120.00 Single issues, 1957-1959, $5.00; 1960-1961, $10.00; 1962ff. $15.00 single article reprints, 1952-1956, $7.50

Order from:
Consultants Bureau Enterprises, Inc. — $120.00/year
227 West 17th Street
New York, New York 10011

AVTOMATIKA I TELEMEKHANIKA
(Automation and Remote Control)

Translation begins with 1956, v. 17- 1956 available from Consultants Bureau Enterprises, Inc., single issues $30.00; single article reprints $12.50 Single issues, 1957 ff. $6.00

Order from:
Instrument Society of America — $35.00/year
530 William Penn Place — $17.50/year*
Pittsburgh, Pennsylvania 15219

IZMERITEL'NAYA TEKHNIKA
(Measurement Techniques)

Translation begins with 1958, v. 7, no. 1- Single issues $6.00

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530 William Penn Place — $12.50/year*
Pittsburgh, Pennsylvania 15219

PRIBORY I TEKHNIKA EKSPERIMENTA
(Instruments and Experimental Techniques)

Translation begins with 1958, v. 3, no. 1- Single issues $6.00

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530 William Penn Place, — $12.50/year*
Pittsburgh, Pennsylvania 15219

USPEKHI FIZICHESKIKH NAUK
(Soviet Physics - Uspekhi; major articles)

Translation begins with 1958, v. 66- Single issues 1958-1961, $9.00; 1962ff. $8.00

Order from:
American Institute of Physics — $45.00/year
335 East 45th Street — $20.00/year*
New York, New York 10017

ZAVODSKAYA LABORATORIYA
(Industrial Laboratory)

Translation begins with 1958, v. 24, no. 1- Single issues $6.00

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Instrument Society of America — $35.00/year
530 William Penn Place — $17.50/year*
Pittsburgh, Pennsylvania 15219

ZHURNAL TEKHNICHESKOI FIZIKI
(Soviet Physics - Technical Physics)

Translation begins with 1956, v. 26, no. 1- Single issues 1956-1962, $8.00; 1963ff. $5.00

Order from:
American Institute of Physics — $55.00/year
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New York, New York 10017